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Editorial Notes

WE publish in this number some of the discoveries made by means of air-photography during the war. The photographs speak for themselves, and would alone suffice to establish the power of air-photography as an instrument of research, were not that now admitted. The sites are all crop-sites, and the outlines of the huts and enclosing ditches are revealed by the differential growth of the crops. Thus it is now quite certain that crop-sites, already well known in this island, may be looked for elsewhere. Of course we all knew this already, but not many crop-sites have, in actual fact, come to light hitherto outside England ; and it is satisfactory to know that the method worked equally well in the very different climate of Apulia.

The moment is opportune for taking stock of the present position. What has air-photography accomplished during the last quarter of a century ? The work done in this country will be familiar to most readers of ANTIQUITY, in which so many of the photographs have appeared. On the continent of Europe little has been done, chiefly because of the great gulf fixed between archaeologists and the Air Forces of their countries. It cannot too often be said that the *only* way to be sure of making discoveries and getting the best results is for trained archaeologists to fly and take their own photographs. A beginning has been made in Switzerland, but without any particularly striking results. During the war German archaeologists secured some good air-photographs of Gaulish Oppida, but all attempts to unearth them again have been unsuccessful. They are probably still in existence somewhere, however, and may eventually come to light. The Iberian peninsula has many sites admirably suited for air-photography, and one of the Roman town of Numantia was once taken. There must be many prehistoric hill-forts in Portugal that would brilliantly repay taking. We commend these suggestions to our colleagues in those countries.

What of the great riverine civilizations of the East ? Many air-photographs have been taken, but few published. Here we fear the archaeologists are largely to blame. Some years ago we made a suggestion for a handbook of Iraq, illustrated by air-photographs of the chief sites, both ancient and medieval. Iraq contains the finest such sites in the world—sites which are not only in themselves of great historical interest, but which are also ideal subjects, both as shadow-sites and (to a lesser degree) as crop-sites. Such a handbook would be easy to compile, for the photographs already exist,

and others could easily be taken in the ordinary routine of practice. Apart from its value as an archaeological record, the book would have had, we think, a certain political value. But the idea did not commend itself to those concerned, and nothing was done. Although it was the sight of the amazing ruins, 20 miles long, of Old Baghdad (Samarra) that first revealed to Major Beazeley the possibilities of the method, he did not publish any of them himself, and the finest air-photo site in the world remains still unpublished. The work of Father Poidebard in Syria needs no further praise here, for it has already been fully described in special review-articles in ANTIQUITY. It is a conspicuous example of the vast new knowledge that can be obtained in a short time by a trained archaeologist who does his own flying.

Recently we have received a magnificent volume of air-photographs taken in Persia*, and containing 110 plates. To us one of the chief new discoveries appears to be the great frontier-wall of earth, stretching from the Caspian to the mountains for over 100 miles, and protecting the cities of the Gurgan plain, and all Persia to the south, against incursions of the nomad hordes of Central Asia. Strictly speaking it is not a new discovery, for the wall is marked on the maps ; but when we made enquiries some years ago we were unable to find anyone who knew anything about it, or had ever heard of it. It is called Alexander's Barrier (Sadd-i-Sikandar), or the Red Snake (Qizil Yilan), and has a series of about 30 rectangular forts set at intervals along the south side. Unfortunately only two photographs of the wall are published, both obliques and neither of them very good. It is not possible, without a good vertical view, to form any opinion of the age or character of the wall or its forts, which remain therefore to be discovered.

Some idea of the harvest waiting to be gathered is given by the views of a town (or of two different towns ?) on plates 66 and 67. A vast area is covered with the ruins of houses planned on a more or less rectangular framework. Here and there are short parallel lines set close together, suggesting the remains of vaulted bazaars such as are common in all Mohammedan cities ; and there can be little doubt that here is one of the cities of the province of Jurjan described by Mukaddasi and other Arab writers of the 10th century. Running through one of the cities here illustrated may be seen two long bands which may represent roads, but may also perhaps be canals. Jurjan itself, the capital, was intersected by canals, crossed by arched bridges or by planks laid on boats.

Enough has been said to show what a single expedition was able to accomplish in a short space of time in a country where such work had never before been undertaken. For its accomplishment the author of this book, and the Oriental Institute of Chicago, deserve the thanks of all students. It was pioneer work, a preliminary reconnaissance, and must therefore be judged as such. Nevertheless it is to be regretted that, both in style and composition, the book leaves much to be desired. Of the style we will say no more than that it repels us. But the book might so easily have been better put together. The best form for such a book is surely a framework of illustrations, fully described,

* Flights over ancient cities of Iran, by Erich F. Schmidt: special publication of the Oriental Institute of Chicago. University of Chicago Press. No date. The flights were made in 1935–7.

with a descriptive text kept entirely separate. An attempt, made here, to combine the two is most unsatisfactory. It is extremely difficult, and sometimes impossible, to discover (on the excellent maps printed) where the sites illustrated are situated. The details given include the exact time, to a minute, the height, and photographic details, but omit the vitally important fact—where the site is ! Nor has the temptation to publish pretty pictures been resisted often enough. One could well have sacrificed, e.g. plate 51 A, of a landing at Tepe Burm, or plate 57, of a cloud-sea, for a good vertical of one of the wall-forts. The method of reproduction, too, is unsatisfactory ; for the best results there is nothing to beat half-tones.

For future work the following areas may be suggested, in the hope that these words may one day be read by someone who can give effect to them.

Undoubtedly the most promising areas are those in the neighbourhood just described—Irak on one side and Turkmenistan on the other. Of Irak enough has been said. But the other area lies within the U.S.S.R. ; and it is strange that, in spite of the good archaeological work done there in recent years, not a single archaeological air-photograph has yet, so far as the present writer is aware, been published.

Another virgin field is the Anglo-Egyptian Sudan. Not perhaps so promising an area, it yet contain sites, such as Soba, which may well produce startling results when seen and photographed from above. A strip-series taken along the Blue Nile from Khartoum to Sennar or Roseires would certainly be most informative, and reveal many new sites. A similar series along the Atbara, from Berber to Kassala, would also be very useful.

There are other kinds of sites that should also be photographed before they disappear—the primitive villages of Africa. Some very good work has already been done in South Africa (see ANTIQUITY XIII, 1939, 1–3 and plates), again by American citizens. Nothing so far has been done by citizens of the British Empire, who might be expected to take a livelier interest in it than others. Again we suggest illustrated handbooks showing the different kinds of native settlements found in a given territory, such as the Sudan. The trouble is that those who are able to take such photographs are only too often unaware of the extent of their opportunities ; and of the fact that, beyond their ken, there exists, in many other countries beside their own, a keen interest in the manner of living, the history or the geography of other races of peoples. We fancy that such a handbook as we suggest would be welcomed by all administrators of the areas concerned, and might well be found useful by university teachers responsible for the education of candidates for the service. In other words, there would be a good sale for it ; and this argument at least should carry weight.

With this number ANTIQUITY completes its 20th volume (1926–47). Once more the Editors thank Subscribers for their continued support. Subscriptions (£1) become due and early payment will be appreciated. A form is enclosed (except to those who already use Bank Orders. Others may also find it convenient to use that method).

Payments and Orders should be sent to Roland Austin
24 Parkend Road, Gloucester.

Masterpieces of Persian Art

by W. H. Riddell

Masterpieces of Persian Art. *By* Arthur Upham Pope. pp. 204, 51 text and 153 half-tone illustrations. Nine supplementary plates in colour, 11 inches by 9 inches. The Dryden Press, New York. No price: no date.

It is a pleasure to see again a book on Persian Art by Mr Upham Pope; and in particular one which is, presumably, within the reach of a modest purse. The comprehensive *Survey* he edited in 1938 for the Oxford University Press could hardly be so described. I have said 'presumably' because nowhere is there mention of either price or date. The latter sin of omission, increasingly prevalent among publishers, is, surely, short-sighted. In these days of the 'blurb' they would not, one imagines, wittingly suggest that their wares will not outlast a year and never afterwards be of use to students.

The author of this book was the chief instigator of the Persian Exhibition at Burlington House (winter 1930–31) which, with his *Introduction to Persian Art* (Peter Davies 1931) as first aid, revealed to the British Public, for the first time, the very distinctive Arts of one of the oldest nations in the world. The present volume is the first of a series of monographs on the Masterpieces of Oriental Art: and its author, or rather authors, for Dr Phyllis Ackerman and Mr Eric Schroeder also contribute sections, passes in review Persia's various art activities, prehistoric, ancient, medieval, and recent, with the exception of architecture which awaits treatment in a subsequent monograph. The whole series will be something to look forward to, if succeeding volumes maintain the promise of the first. The wide knowledge and experience of Mr Upham Pope make it authoritative: his eloquence and enthusiasm make it a pleasant thing to read. The numerous plates, which are carefully chosen to complement and illustrate the text, are for the most part culled from the 1940 Persian Exhibition in New York. They are, in general, excellent, though a few (plate 23 is an example) might have been improved by more attention to the lighting.

A complete survey of Persian Art in so few pages was only possible by the avoidance of all controversy—that controversy for which Persian Art, being largely anonymous, offers so wide and attractive a field. The authors, refusing to be 'drawn', confine themselves strictly to facts; and I can do no better than to select here a few of the more noteworthy as samples.

In the Neolithic section with which the book begins Dr Ackerman calls attention to the little appreciated fact that ornament, practically all ornament not directly derived from natural forms, has its origin in symbols of ritual significance—symbols which at the beginning had no decorative purpose. This theme runs like a connecting thread throughout the book; and nearly at its end we are shown (the surprise of it is delightful) in the centre of the most sumptuous of all Persian carpets (the Ardabil plate 141) the same symbolic tank of fertilizing water which appears, though very differently treated, on the Neolithic goblet in plate 2.

In the following section on the Luristan bronzes we almost regret that the authors have eschewed controversy. There is clearly some doubt who exactly their makers were. Were they an alien or an indigenous people, these casters of bronze and lovers of horses who were seemingly the prey of tortuous superstitions. The harsh realism characterizing their art is well illustrated by the cheek-pieces of bits (plate 10); while their votive pieces—'talismans'?—suggest, though this may be coincidence, Hittite affinities (plate 6a).

It is difficult to believe these people kin to those other workers in bronze at Azerbaijan who, amongst other fine work, produced the Head of a King (plates 24 and 25). This suavely modelled head, intelligent, regal, and serene, is one of those early masterworks which, like the Vaphio gold cups and the frieze of Wild Geese in Nefermat's tomb, astound us by its modernity. Here is no hint of the grim and over-emphasized virility which Assyria introduced into the milder Persian milieu towards the end of the ensuing Achaemenian period.

It is a little surprising that Mr Upham Pope should have a good word to say for the Great Hall of Xerxes at Persepolis. This is where that old tag, '*de gustibus . . .*' comes in. To me the order, or rather *dis*order, of its architecture—I am going by Mr Phene Spiers' restoration—is like a bad dream. Alexander is reported to have destroyed this building when drunk. Had he been sober, one would have thought the more of him. A bull's head from one of the roof-brackets perched atop each crazy column is here illustrated. It 'registers' a mild surprise, as if to say, 'This is *no* place for me'.

It is a relief to turn to the vulture's head (plate 30a), a little gem in coloured glass. The setting of its eye, the line of the gape, and the characteristic conformation of the nostril are straight from the Book of Nature. This, by the way, is a book our authors would have done well to study. They are not zoologically-minded. For example the animal on the Luristan cheek piece (plate 20b) is not a goat, it is a wild sheep, a moufflon. The Azerbaijan bronze (plate 22) is not a deer, as described on page 21, it is an ibex. The two animals, doing the goose-step, on the silver plaque (plate 30d) are not ibexes. The horns of no ibex, except the Spanish species, have a double curve. Being hunted they cannot be *tame* goats. Consequently, despite their thick legs they are probably Persian gazelles (*Gazella subgutterosa*). There are a few other similar mistakes, but for one of them at least the authors are not to blame. It is the painter of the miniature on plate 120 who has blundered. He depicts Bahram Gur hunting the wild ass. Unfortunately the wild asses he hunts are not onagers (the Asiatic wild ass), they are unmistakeably tame donkeys. No onager has the dark vertical shoulder-stripe here so clearly indicated. That is the distinctive mark of the *Nubian* wild ass of Africa from whom all our tame donkeys descend. Furthermore the black tip here given to their ears is absent from the Nubian *wild* ass and was only evolved by their tame descendants after domestication. Can it be that Bahram 'that Great Hunter' was the type of sportsman who likes to shoot hand-reared pheasants or pigeons out of traps? His nickname Gur—the Wild Ass—belies it.

While on the subject of animals I cannot forbear mentioning the strange beast on plate 117 which is apparently a Persian miniaturist's idea (from hearsay) of a Rhinoceros. It is also line for line, pose for pose, and even stripe for stripe, the image of the enigmatic 'Unicorn' of the Mohenjo-daro seals; which latter, incidentally, cannot be a Rhino, since that animal figures recognizably on another seal. The close similarity of two designs 4000 years apart—an echo spanning so vast an abyss of time—would be staggering, had not I encountered a like coincidence not long ago. Pottery bowl-covers,

which have, in place of a knob on top, small subsidiary bowls, have been found in Crete and dated early Minoan. Here at my home in southern Spain bowl-covers in all respects precisely similar have been unearthed. They are undoubtedly Moorish of about 11th century A.D.

But to return to Persia. A comparison between the figure of Bahram mentioned above and the figure of Shapur I, hunting wild sheep on the Sasanian silver bowl (plate 37), reveals, as nothing else could do, the damage done to Persian Art by the invasion of Islam, with its fanatical vetoes on the representation of living beings, and on the use of precious metals for ornament. After the Islamic invasion, we may search in vain for any figure of such dramatic intensity and vigour as that of the Sasanian King ; or, for that matter, so complete an embodiment of predatory rapacity as the mythical Gryphon on plate 36. Moslem vetoes, it is true, were honoured more in the breach than the observance ; nevertheless they were a real limitation, a limitation only mitigated by Islam's single important contribution to Persian Art—the Arabic Script.

Owing to Mongol devastations in the 13th and 14th centuries, little remains of the early Islamic period except pottery and bronzes. These early reveal a fondness for elaborate and intricate ornament hitherto unknown : the sudden transformation being well illustrated by the two jars, one Sasanian, the other Islamic, on plates 42 and 43. Persian pottery, often a beautiful substance in itself, and often graceful in shape, suffers not infrequently from over-elaborate decoration, though no one can withhold admiration from the broadly treated decoration of the four bowls on plates 48 and 49. The colours too were often beautiful, but of that this book gives us no opportunity to judge. Purist potters may however look askance at the Persian penchant for ' lustre '. It became popular no doubt because it was an obvious ' way round ' the Moslem embargo on precious metals for ornament. But it is always risky in art to attempt imitating one substance by another. In defiance of the other embargo both human and animal forms are fairly prevalent. They have little to commend them. Lack of nerve perhaps has emasculated their vitality ; too often they are an intrusion on, or an interruption to, the decorative scheme ; and only when they are reduced to a completely decorative convention as on the Rayy bowl (plate 89) is their use a genuine success.

Subsequent to the Mongol devastations the Islamic period is rich in all categories of Persian Art. Lavish intricacy of ornament now finds its true vocation in the illuminating of books and superlatively so in the design and manufacture of carpets. These two activities, both mainly due to the same artists, raise Persian Art to a height never before attained. Few things are more exquisite than a good Persian miniature ; while a fine Persian carpet can with ease bear comparison with the World's greatest Masterworks. When the painter John S. Sargent wrote (p. 183) ' I have seen today a carpet more beautiful than any picture ever painted ', it was of a Herat carpet he wrote, and what he wrote is emotionally, if not substantially, true. Our first sight of one of the great Persian carpets is an unforgettable experience, and, as our author says, a leisurely examination and analysis of its colour-scheme and pattern serves only to increase the joy. He hints, and we must, I suppose, defer to his wide experience, that the rarest of all Persian carpets, those mistakenly called ' *Polonais* ', are not, as most laymen think, the best. He finds their soft and silken pastel colours, in their harmonizing setting of gold and silver thread, a trifle too sophisticated and perhaps a little anaemic. And yet I recall vividly the first I ever saw. It was overwhelmingly lovely ; which, I regret to say, its colour reproduction in the Burlington Magazine (July 1929) was not. No one is better aware than Mr Upham Pope that no colour process can hope to do justice to the subtle

beauties of a Persian carpet : the reduction in size alone prohibits the possibility. None the less we can be grateful to him for the attempt here made ; they are at least an improvement on black and white. The miniatures suffer less under the colour process and we regret that a second colour plate could not be spared for another *and better* miniature than the one here selected. There is a hint here, I am afraid, of reproof. Fault-finding is an unpleasant part of the reviewer's job, and now that I have begun, I will go on. The little space remaining will amply serve. Students will regret that no sketch map of Persia was included, and, in a book with index, they would have found helpful a reference under each illustration to the page where it is discussed in the text. Printer's errors are few : the most important that on p. 182 where the reference to plate 141 is misprinted 143 ; the descriptions beneath the frontispiece and colour plate D have apparently been transposed ; there are no animals on the frontispiece carpet ; below colour plate F, 6th century should of course be 16th ; while on plate 134 the description of the two plates 134 and 135 are both printed—for a reason not immediately obvious. It takes time to discover that four colour-plates have been inserted between plates 134 and 135. Last of all the cover-design of this book is not all it might be. If a figured-paper cover was a *sine qua non*, the centre panel alone of the design selected, omitting the lumpiness of the border, would have been much more effective ; a plain *matt* paper of a colour harmonizing with the linen back better still. Is this hypercritical ? I cannot think so. A book of this excellence and distinction deserves a ' dress of honour '.

The Crusaders in the Red Sea and the Sudan*

by the late Sir Douglas Newbold

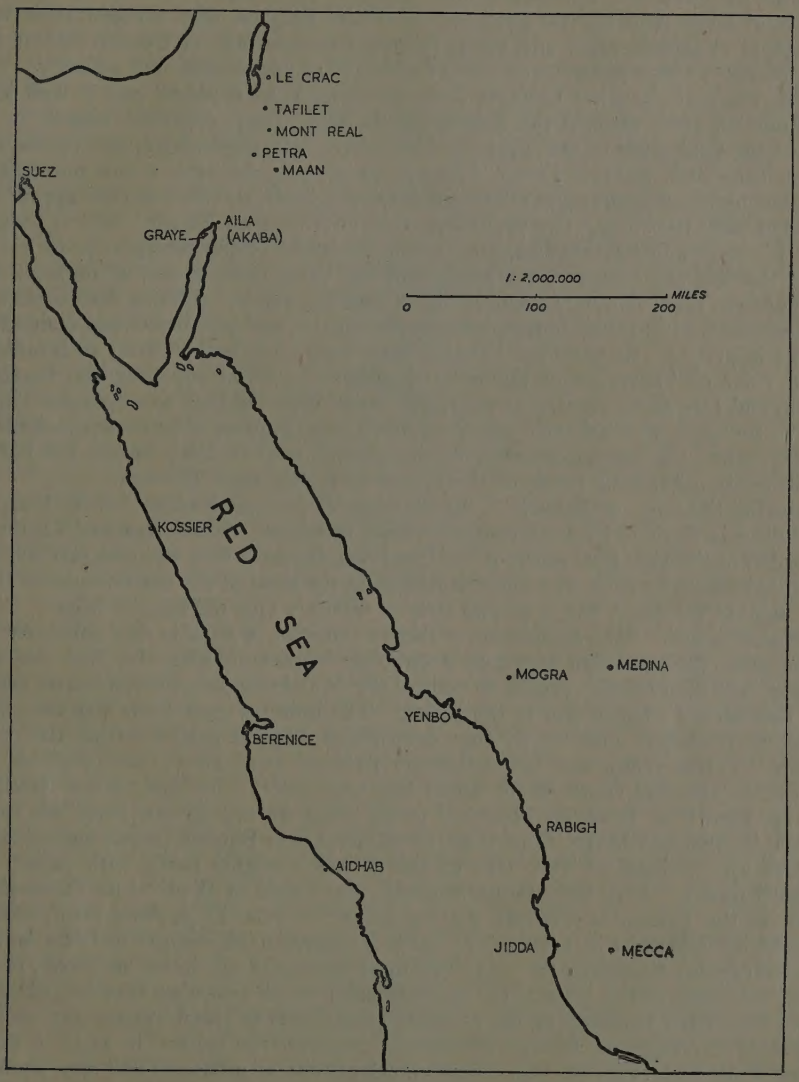
(*A talk given at the Supper Club, Khartoum, on 29 August, 1943*)

IT is said that truth is stranger than fiction. The history of the Middle Ages is largely one of romance ; and of all the medieval episodes, the story of the crusades is perhaps the most romantic ; and of all crusading ventures the most fantastic and least known is the amphibious attack on the holy cities of Islam, Mecca and El Medina, by the famous French crusader, the prince of Antioch and lord of Transjordan, Renaud de Chatillon. To us in the Sudan Renaud's raid down the Red Sea is particularly interesting, as the crusaders actually landed in the Sudan and dominated both the Sudanese and Arabian coasts of the Red Sea for many months.

The reason why this particular adventure is so little known is because there is practically no record of it in the European historians. All our knowledge of it is derived from the Arab chroniclers ; and the audacity of the raid and the terrible reputation of Renaud as a warrior so impressed the Saracens, as the Arabs were then called, that their writers have given us vivid accounts of the whole affair. Some of these Arabic accounts have been translated, mostly into French, but some are still untranslated. I managed, however, to obtain a number by the courtesy of Prince Omar Toussoun, and the following story is pieced together from them and from European accounts, medieval and modern, of the life of the notorious Renaud in Syria, Palestine and Transjordan.

In order to understand the background of Renaud's exploits we must go back to the First Crusade. It is hard for us in the 20th century to realize that for a thousand years, from the initial conquests of the prophet Mohammed and his generals in the 7th century A.D. to the siege of Vienna by the Turks in 1683, the peril of a Mohammedan conquest of Europe was almost continually present. The crusades, especially the First Crusade, were a combination of a pilgrims' progress with Jerusalem as its goal, and a holy war. They were the culmination of a religious revival, which began in western Europe during the 10th century and had mounted high in the 11th century. They were also part of the foreign policy of the church, an instrument of penance. Penance might consist in fasting, in mortification of the flesh, or in pilgrimage. Pilgrimage to Jerusalem, then in the hands of the Saracens, had been performed for several centuries by bodies of Christians under permission from the caliphs, but their way became more difficult when the Seljuk Turks captured Jerusalem from the Egyptian caliph in 1071, and the emperor of Constantinople appealed to Pope Gregory VII and later to Pope Urban II. It was a favourable time for action. At the same time that there was a strong revivalist movement in the Christian Church, there was pestilence in central Europe, and famine in France, which drove men to emigrate to the East. The movement was set in force by the great speech on 26 November, 1095 by Pope Urban at Clermont in France which gave birth to the first crusade. It was essentially a French enterprise, preached by a French pope on French soil, and made especial appeal to the old viking instinct of the Norman

* Reprinted from *Sudan Notes and Records*, vol. 26, part 2, 1945, pp. 213–27, by permission of the Editorial Committee.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nobles, Godfrey of Bouillon who captured Jerusalem, Baldwin of Flanders the first king, Raymond of Toulouse, Bohemund and Tancred of Otranto, Robert of Normandy, Stephen of Blois, and a great company of feudal knights, who brought their various contingents of men-at-arms and camp followers to assemble at Constantinople in the spring of 1097, a vast picturesque host of at least 150,000 cavalry and infantry.

The story of the First Crusade does not concern us in detail and is well known. The Frankish army crossed the Bosphorus in May, 1097, captured Nicaea in June, defeated the field army of the Turks at Dorylaeum a fortnight later, and by the end of October came into position before Antioch, which only fell after a nine month's siege. Feuds among the crusaders and other sieges delayed them, and they did not appear before Jerusalem until June 1099, two years after they entered Asia Minor. On 15 July, after a month's siege and terrible slaughter, when the blood of the conquered ran down the streets, the city was captured, the soldiers of the Cross came at last at nightfall to the Church of the Holy Sepulchre and, as the chronicler writes, ' sobbing for excess of joy ' they dismounted from their horses, entered the church, and put their blood-stained hands together in prayer. So the First Crusade came to an end, and Godfrey of Bouillon was elected ruler or ' advocate of the Holy Sepulchre '. After repelling the Saracens at Ascalon and Damascus he died in 1100, and his brother Baldwin was crowned king, and thus was founded, on Christmas Day 1100, the Latin kingdom of Jerusalem, which lasted till 1187, when the massed chivalry of the crusaders went down before the hordes of Saladin at the disastrous battle of the Horns of Hattin near Tiberias.

During the reign of Baldwin I, the kingdom of Jerusalem expanded till it stretched from Beirut in Syria to El Arish on the confines of Egypt. It only reached a little across the Jordan to the East but, south of the Dead Sea, Baldwin won territory (the old land of Edom) stretching to Ailat, the modern Akaba, at the head of the eastern arm of the Red Sea. East of the Dead Sea, a second strip of territory (the old land of Moab), in which lay Petra, was won. The occupation of these territories, of what is now southern Transjordan, gave the Christian kingdom a strategic connexion with the Red Sea and its shipping, and enabled the Franks to control the Mohammedan caravan routes especially from Damascus to Egypt and to the Hejaz. The hold on these parts was consolidated, as was the crusaders' custom, by the construction of great castles during the reigns of Baldwin I (1100–1128), and his successors Baldwin II (1128–31) and Fulk of Anjou. The castles east and south of the Dead Sea were :—(1) Montreal (Mont Royal) built in 1115, known as Krak de Montreal (*krak* being an old Syrian word for fortress), between Tafileh and Maan, some miles NE of Petra near Shobek (hence also called Krak de Shobek). William of Tyre tells us that it was a mighty castle with superb towers and battlements. Very few vestiges remain. (2) Castle of Wadi Musa (Moses' valley) known to the Franks as Château du Val Moise, or Sela (1), at Petra itself, which was occupied by Baldwin I in 1116. The castle is known to all visitors to Petra on the hill of the Acropolis, a citadel rock. (3) The most famous of all, Kerak of Moab, or simply Kerak, the Rock of the Desert, the most amazing of all crusaders' castles, built on the ancient site of Kir Hareseth or Kir of Moab (mentioned in Isaiah (2) and the book of the Maccabees) by Paganus, lord of Montreal, surnamed the Butler, in 1143 in the reign of king Fulk of Jerusalem. (4) Ahaman, whose site is unknown but was probably at

[1] II Kings XIV, 7. ' He (Jehoash) slew of Edom in the Valley of Salt 10,000 and took Sela by war and called the name of it Joktheel unto this day '.

Isaiah XVI, 1. ' Send ye the lamb to the ruler of the land from Sela to the Wilderness '.

[2] Isaiah XV, 1. ' The burden of Moab . . . because in the night Kir of Moab is laid waste '.

Maan, or possibly Hebron. Ruins were seen at Maan in 1862 by Palgrave. (5) Taphila at Tafile. (6) Quaira, ? Aire near Petra, or Jebel Cherah. There may even have been a seventh Karmaza and an eighth Wadi Jerba, but these are doubtful. In any case there were enough fortresses to show the importance attached by the crusaders to the control of the routes to the Red Sea. Lastly there was the occupation of Ailat, the ancient Elath, in 1116 and the Saracen fortress on the island of Graye. This fortress was lost again in 1175 to Saladin. ' The children of Esau who dwelt in Seir through the way of the plain from Elath ' (Deut. ii 8) (3). Elath is on the east side and Ezion-geber on the west.

All this area was called the fief of Oultre Jourdain, or Trans-Jordan, and in 1177 was given to the hero (or villain) of this story, Renaud de Chatillon. Renaud's career was worthy of comparison with the great buccaneers of history, such as Barbarossa and Drake. He was born in Chatillon, a small town in the valley of the Seine in about 1127, a younger son of a noble family. He seems to have left for the east in the train of Louis VII as a young knight of 20, and he is first mentioned as taking part in the siege of Ascalon in 1153, when he was 26, under king Baldwin III. He soon won the reputation of a warrior, was young, fiery, and good looking, and in the same year married Constance, daughter of Bohemund II and widow of Raymond of Poitier, prince of Antioch, who had been killed in battle in 1149. Renaud through this marriage became prince of Antioch and showed his independence and ferocity early on by a dispute with the patriarch Amalric. Renaud arrested him, flogged him, and hung him up naked on his tower with honey smeared on his bald head to attract the wasps. The king of Jerusalem sent the bishop of Acre and his chancellor Raoul to rebuke Renaud, who had to release the patriarch and did penance, but the patriarch never forgave him. Renaud also undertook a disgraceful and purely piratical expedition on the Christian kingdom of Cyprus to get some money for his army, with a mob of Franks, Armenians, Druses and Bedouin. He took Cyprus by surprise in 1155, and pillaged it, tortured and mutilated the Greek monks and priests and massacred women and children. Next year he fought a campaign against the Saracens of Nur el Din, Sultan of Aleppo, which was really a series of commando raids. Renaud was an ideal commando leader, bold, fearless, ruthless. He seems to have raided Christians as eagerly as Mohammedans ; and he never acknowledged the authority of his overlord, the king of Jerusalem, nor would he ever abide by any treaty made between the crusaders and Saracen leaders. He got into great trouble over his atrocities in Cyprus, and the emperor of Constantinople, Manuel, made a special visit to Syria to deal with him. Renaud decided to submit and do penance, and prostrated himself barefoot in front of the emperor and all his staff and escort of Greeks and Vikings in 1158. Renaud thus kept his principality of Antioch, but not for long, for he suffered an even greater humiliation by being captured in 1160 by Mej el Din, brother of the sultan of Aleppo, when returning from a raid on the Saracens and hampered by an enormous loot of oxen, camels, etc. Renaud was stripped naked, tied on a camel, and taken to Aleppo, where he was imprisoned for 16 years, till he was ransomed on payment of 120,000 dinars, the biggest ransom ever asked by the Saracens. Even then the vizier Sad el Din, who negotiated it, was accused of treachery and actually strangled later by the Mohammedans, so terrified were they of the invincibility of ' Arnaout ' as they called him. . They had some justification for their fears, because it was eleven years before they captured him again, and during that time he revenged himself for his captivity by ceaseless attacks on them. We know little of his captivity except that he

[3] See also I Kings IX, 26, and Numbers XXXIII.

was never moved from Aleppo or let out on parole, and apparently spent some of his time learning Arabic. (This is reminiscent of Slatin's long captivity in Omdurman in the hands of the Dervishes). Meanwhile the famous Saladin rose to power in Egypt, which was being attacked by king Amaury and emperor Manuel, and became sole ruler in 1171. Saladin hated the crusaders as fanatically as Renaud hated the Saracens, and from now on these two men dominated the stage of the Middle East in a see-saw series of campaigns—not unlike Rupert and Cromwell, or Rommel and Auchinleck—until fate ultimately decided the issue by the shores of Galilee.

On his release in 1176 Renaud offered his sword to the then king of Jerusalem, Baldwin IV, crowned in 1173, a boy of 13 and a leper. His principality of Antioch had been given to another, so he was granted the fief of Oultre Jourdain, vacant through the assassination in the streets of Acre at the end of 1174 of the baron Miles de Plancy, seigneur of Karak and Montreal, seneschal of the kingdom. The king's military counsellors, alive to the need of a good general in Transjordan and the Red Sea area against the menace of Saladin, arranged the grant of this area to Renaud together with Miles' widow, the Lady Etiennette, daughter of the lord of Nablus. She was known as the Dame of Kerak. Renaud, whose wife Constance had died while he was in captivity, found himself elevated from being a prisoner and a widower, to the possession of a large princedom, six magnificent castles, an army, and a princess. It was just the sort of province that suited him, wild and rugged, remote enough from Jerusalem for him to ignore the authority of the central government and its sickly boy-king, and with every opportunity for piracy and plunder by land and by sea.

He wasted no time. His command stretched from Zizah south of Amman, now a railway station on the Hejaz railway, a useful springboard for raids on the Saracen kingdom of Damascus, to Akabah in the south and Hebron and Mt. Sinai in the south west, equally good bases for raids on the other Saracen kingdom of Egypt and the rich caravans of the Hejaz. Renaud was thus a forerunner of Lawrence. Access to the gulf of Akaba enabled Renaud, who was no stranger to amphibious operations since his raid on Cyprus, to have a navy, as it had in the case of Solomon 2000 years before. If Renaud read his Bible, which I doubt, he would have been inspired by 1 Kings IX, 26 : ' And king Solomon made a navy of ships in Ezion-geber which is besides Elath [Ailat] on the shore of the Red Sea in the land of Edom. And Hiram sent in the navy his servants, shipmen that had knowledge of the sea, with the servants of Solomon, and they came to Ophir and fetched from thence gold '.

For his first few years Renaud confined his energies to land raids and to taking toll by treaty from the caravans going from Cairo to Mecca and Damascus to Mecca ; the former had to pass through Akabah, and the latter had to run the gauntlet of his castles east of the Dead Sea. In November 1177 Renaud won his first victory over Saladin and 26,000 cavalry at Montgisart (4) near Ramleh, with the bishop of Bethlehem bearing a relic of the Cross in the forefront of the Christian troops. In the next two years the crusaders suffered defeats, and a treaty was made with Saladin. Renaud could not bear peace and recked nought of treaties, and in 1181 executed a raid as far as Teima deep in the Hejaz 200 miles inland against a Damascus caravan, and carried back a vast booty of prisoners, women and animals 350 miles to Kerak, valued at 200,000 besarts. The Arab historian Abu'l Feda, describing this raid, refers to Renaud as the French demon. Renaud actually was intending to push on south another 250 miles and seize El Medina and its reputed treasure, but Saladin's nephew, Feruk-Shah, governor of Damascus, came up

[4] Scene of the Desert Yeomanry charge against the Turks 15 November 1917.

in time to stop this and chased them back north. Saladin writing to Baghdad says : ' The criminal soul of the tyrant of Kerak impelled him to march with cavalry and infantry on Teima, the gate of El Medina ; but Allah the Almighty enabled us to protect the tomb of the Prophet '.

The king of Jerusalem was furious with Renaud for breaking the treaty, and ordered him to return all the captives and booty. Renaud told the royal envoys he would not part with a penny. Saladin was also enraged, and massacred 1,600 Christian pilgrims at Damietta, and wrote to Jerusalem. King Baldwin could only reply that Renaud was out of hand, and that the royal writ did not run as far as the Red Sea. Saladin thereupon ravaged the country round Montreal and destroyed the crusaders' vineyards and date trees ; and so the historic vendetta went on.

In 1182 Renaud conceived his most daring raid of all, a naval expedition down the Red Sea to the very heart of Islam at Mecca and El Medina. Owing to the Mohammedan occupation of the island fortress of Graye at Ailat, lost by the crusaders in 1175, Renaud had no safe shipyards in which to build a navy, but that did not baffle a man like him, and he constructed war-galleys in sections, some at Ascalon near Gaza, and some at Kerak itself, and contracted with friendly Bedouin to carry them on camel-back to the shores of the Red Sea, near Ailat, where he had penned the Saracens in their fortress. Our information on this amazing enterprise is exasperatingly meagre and practically all from the Arab historians—Eimad el Din's *History of the Crusades* and the Qadi El Fadhil, who recorded Saladin's war despatches to Cairo and Baghdad ; Kemal el Din's *History of Aleppo* ; Mojir el Din's *History of Jerusalem and Hebron* ; Ibn Jobeir the great geographer, and others. The only contemporary European historian who mentions this raid is the French chronicler Ernoul, squire of lord Balian of Ibelin (5).

Apparently Renaud's navy consisted of five large warships furnished, according to Ernoul, with ' cavaliers, sergeants and food '. He must also have built a number of auxiliary vessels, because Ibn Jobeir mentions sixteen warships of the Franks which Renaud had painted black, either for camouflage or as a pirate's colour. We do not know the number of warriors, but they probably totalled at least 1000 knights and men-at-arms with a number of renegade Arab pilots, and Bedouin camp-followers, athirst for loot. So they set sail, on one of the craziest odysseys of history, plunging, like the Argonauts, into an almost unknown world, heroic paladins according to the chronicler Ernoul, infidel pirates according to the Arab writers. The crusaders' fleet was divided into two flotillas. One led by Renaud himself with two of the big war vessels blockaded the island fortress of Graye, the Heligoland of the Gulf of Akaba, and tried to starve it into submission. The other sailed down the Red Sea bent on exploration and plunder. Their first objective was the port of Aidhab, nearly 250 miles north of Port Sudan, also known as Suakin el Qadim, or old Suakin. Now Aidhab is historically one of the most interesting spots in the Sudan. It first appears in history as the port of the Red Sea gold mines, whence ancient Egypt got gold ; it was probably used by the Romans, and then by the early Mohammedans. It was visited by the Chinese who traded Celadon for sea-slugs. Porcelain of the 10th century Sung Dynasty (pre-Ming) has been found there. I saw many fragments of it there myself fifteen years ago, mixed with pottery of ancient Egypt, a Roman mining lamp and Arab glass bangles. When the crusaders made the Hejaz land-route dangerous for Egyptian pilgrims to Mecca, they came overland from Keneh on the Nile to Aidhab and embarked there to slip across to the Arabian ports of Rabegh and Jeddah. Aidhab was therefore a notable port for pilgrimage as well

[5] Ibelin is Yebna north of Gaza.

as trade, and by attacking it Renaud could feel he was serving both God and mammon. His pirate fleet took the terrified population by surprise and plundered the town. They then rode inland and to the north to overtake and capture a rich caravan on its way to Kosseir. The party left aboard were also in luck. Not only did they defeat and burn sixteen ships of the Mohammedan merchant marine, but they captured at sea a large pilgrim vessel coming in from Jeddah, and made a good haul of captives and booty. The Kosseir party also found and burnt two large cargo boats from the Yemen. Flushed with this initial success the Frankish filibusters turned their prows still further south and pounced on harbour after harbour on both sides of the Red Sea guided (since they had no charts) by renegade Arab pilots, who were pilloried by the Mohammedan writers as ' more accursed than the infidels '. We have no details of these raids except for attacks on Hawara, a port of El Medina, north of Yambo, and Rabegh north of Jedda. But the Qadi El Fadhil tells us explicitly that they penetrated as far as Aden, to the very gates of the Indian Ocean, thus anticipating the Portuguese mariners of the 15th century. Aden was the legendary home of fabulous animals like the unicorn. It must have astonished the Arabs of Aden to see knights of Brittany, Flanders and Genoa disembarking on their tropical shores to raid their markets and fill their water-casks at the famous tanks. It seems likely, though we have no record, that the crusaders landed either for plunder or water at Dongonab, where pearls were famous in the 13th century, Suakin, Massawa and Kamaran Island. The chain mail of crusaders is still to be found in the Sudan ; some we know came up the Nile from the Saracens of Egypt, but some probably dates from this voyage (6).

For nearly a year, the second half of 1182 and first half of 1183, the crusaders' fleet was mistress of the Red Sea, and the agitated narratives of the Arab historians reflect the fury and fear aroused in Cairo and Mecca by these monstrous incursions on to Holy Territory. ' Great was the terror of the men of Mecca ', says Eimad ed Din, ' who saw the raids like flashes of lighting. They believed that the hour of the last judgment had struck, and hoped only for a miracle to save the temple of the Kaaba, such as happened at the Abyssinian invasion, when the invaders perished under a hail of stones dropped by birds from the sky '. (This refers to the famous raid of King Abraha of Axum in 570 with elephants, which failed for an unknown reason).

It was said that Renaud had sworn to profane the tomb of the Prophet, to burn his body and scatter the ashes to the winds, and to destroy the sanctuary of Mecca. Mojir el Din says that Renaud aimed rather at stealing the Prophet's body and removing it to Kerak and then charging a heavy fee for Moslem pilgrims to visit it. This sounds just like Renaud, and may well be true.

But while the Meccans sat wringing their hands, the Saracen chiefs in Egypt acted. Saladin was away in Syria, but his brother Abu Bakr, who was his viceroy in Cairo, copied Renaud's ingenuity, and built warships and transports at Cairo and Alexandria, assembled them in sections at Damietta, and carried them on camel back to Kolzum, his port near Suez. In spite of all his efforts his fleet was not ready till January 1183. The command was given to the chamberlain Husain el Din, a well known admiral, described as ' very brave, fortunate in war and swift as an arrow '. He was nicknamed Lulu ' the pearl ', and certainly proved a pearl among admirals. He recruited his crews from the Moghrabis or western Arabs, skilled mariners from Tripoli, Algiers and Morocco, the *élite* of the Saracen navies. So a second improvised navy, the sailors of the Crescent, set sail in search of the sailors of the Cross : first they rounded the southern tip of Sinai, Ras

[6] And some, though without riveted links, is still being made in Omdurman.—Editor of S.N. and R.

Mohammed, and sailed up the gulf of Akaba to raise the siege of Ailat, which still held out after months of blockade. A letter of the Qadi El Fadhil dated 2 March, 1183 tells how the gloom in Cairo was changed to joy by the news that Lulu's fleet had captured and put to the flames one of Renaud's warships, and then forced two others ashore, where the crusaders were all killed or captured. Renaud, apparently, either was not there or escaped. The Saracens flushed with victory, sailed south to attack the other crusaders' flotilla, which was now cut off from its base. At Aidhab they found nothing but the graves of the crusaders' victims and the charred remains of the Arab pilgrim ships. For two months they quested the Red Sea shores like hounds, while Renaud's pirates continued their raids to the south. It was during this period that the crusaders visited Aden.

At last in July, at the very hottest time of year, Lulu sighted the Christian galleys moored at El Hawara. The crusaders were preparing for their final assault on El Medina itself; one troop had had already marched inland, and the rest, on the destruction of their ships, mounted and followed to join them. The Egyptians disembarked in pursuit. Mojir el Din says the crusaders numbered 300 knights with a number of renegade Arabs. This seems a small number; but they were well armed and mounted, and we must remember that successful invasions have been made in history by similar small bodies of superior discipline and armour—witness the victories of Alexander the Great's armies in Persia and as far as India, of Cortez and Pizarro's Spaniards in Mexico and Peru, the small body of 400 Portuguese musketeers who invaded Abyssinia in 1541, and the Nazi invasion force at Oslo. But the crusaders had chanced their arm once too often. For five days and nights the pursuit went on, but it could only have one end. On the sixth day within a short day's march of El Medina itself the crusaders, overcome by heat and thirst, with their horses galled and lame from terrible going, stood at bay in a waterless gorge under the burning sun of Arabia, encircled by 900 Saracens of Lulu reinforced by guerilla bands of local Bedouin, for whose help the admiral paid in silver. The admiral Lulu himself was in at the kill. The battle ended in the destruction or capture of all the crusaders, far as they were from help and from their native lands of France and Italy. A few tattered fugitives may have got away and staggered home to Kerak by devious ways through the desert. The Arab chronicler says that 176 knights were taken prisoners. Renaud was apparently not there but in the north. There were no Geneva regulations for prisoners in those days. Stripped naked as usual, and tied with chains on camel back, a selection of prisoners was sent at once to Mecca and Medina to be paraded before execution. The execution itself took place at Mina, the famous road-station of Moslem pilgrims, where every pilgrim must sacrifice a sheep on the way. Here at this Mohammedan Golgotha, in the presence of a vast crowd of Arabs, the knights of the Cross had their throats cut as a thank-offering to God for saving the Holy Cities. The rest of the captives were taken by Lulu back to Egypt. Saladin had written to him that all were to be beheaded, so that none could be left alive who knew the Red Sea routes. These prisoners were apparently distributed through the main cities of Egypt. Ibn Jubeir actually witnessed, in Alexandria, a vast crowd assembled to see their arrival. Chained on to camels facing the tail, they were led to execution to the sound of drums and cymbals, and were beheaded. In the same year the admiral Lulu died. The historian El Yafei in writing his obituary says that he was so certain of victory that he took down the Red Sea a number of chains corresponding to the reported number of crusaders.

So ended this bold but tragic adventure, the only time the crusaders entered the Sudan; but there was one head which did not roll in the dust of Egypt, and that was

Renaud's, and Saladin determined to get it. In September they met in battle when the advance guard of Saladin's army routed a force of Renaud's cavalry from Kerak and Montreal at Ain Jalut and took 100 prisoners. In November Saladin laid siege to Kerak but, says Kemal El Din, ' all the Saracen efforts were paralysed by the giant walls and moats of Kerak '. Renaud himself was in the castle, and oddly enough, when the dust of Saladin's army was seen on the northern horizon, Renaud was celebrating the wedding of his stepson prince Humphry of Toron and princess Elizabeth, a girl of eleven, sister of the boy-king of Jerusalem. Renaud with the true bravado of the buccaneer, oblivious of his losses and of the army advancing on the castle, laid on a magnificent oriental feast, with musicians, dancers and jugglers. In the midst of the ceremony the fourteen siege-engines of Saladin began to batter at the walls. According to the historian Ernoul, Etiennette, mother of the young bridegroom, sent out to Saladin a present of bread and meat and wine, with a message that gave him greeting and reminded him that he once in his youth had been a prisoner in Kerak, and had, as a slave, carried her when a child in his arms. Saladin was touched by the message, and, having asked which of the great towers of the castle housed the happy couple, gave orders that the tower was not to be attacked, so that they could have their wedding night in peace. This is the only instance of chivalry in the long feud between Saladin and Renaud, but it was a concession to Renaud's wife and not to Renaud. Saladin actually took and fired the outer works, and occupied the whole outer circle of the castle, and drove in the garrison and inhabitants with their animals pell mell into the inner citadel, which was only saved, it is said, by a German knight called Yveins, who, amid a hail of arrows, guarded the drawbridge with his sword until the panic-stricken garrison had poured inside and the portcullis was let down. But the castle would have fallen had it not been for help from outside. Renaud sent a sergeant through the enemy lines to Jerusalem, and king Baldwin hastily mobilized an army, and lit a beacon on David's Tower as a sign that help was coming. Saladin at once raised the siege and returned to Damascus, and Kerak was saved and revictualled and its walls repaired. In the spring of 1184 next year, Saladin advanced again through Amman, and he invested Kerak on August 13. For three weeks he battered the walls with his engines, but again had to retire before a relieving army. The walls and moats of Kerak were impregnable. Qadi el Fadhil in one of his vivid letters to the Baghdad caliph writes : ' Kerak sticks in our throats, blinds our eyes, and strangles our hopes : it lies like a wolf in the valley to bar the pilgrims' way. Kerak and Montreal are the two lions, which daily devour our flesh and drink our blood '.

But although the castles of Transjordan stood firm, the Latin kingdom of Jerusalem was doomed. Saladin, perhaps weary of the contest, agreed to a three years' truce at the end of 1186 with king Guy of Lusignan, who had succeeded to the crown of Jerusalem earlier that year on Baldwin's death, largely owing to Renaud's support. The kingdom badly needed a breathing space, but Renaud, who could never brook an armistice, went on plundering caravans till he captured one with Saladin's own sister, and when the Saracens urged the treaty and asked for her and other prisoners, he said ' I made no truces, and, as for the captives, let your Prophet deliver them '. Once again and for the last time he chanced his arm too often. Saladin repudiated the truce and assembled his armies from Egypt, Syria, Arabia and Mosul. Arabs, Egyptians, Kurds and Syrians massed together at Damascus for a war of extermination. On 3 March, 1187 Saladin's troops marched out of the Syrian capital. King Guy of Jerusalem answered by mobilising the crusaders. Feuds were forgotten and the whole chivalry of the Holy Land banded together, Knights of the Templars, of the Hospital, the forces of Count Raymond of Tiberias, Balian of Nablus, Raynold of Sidon, Gauthier of Caesarea, Bohemund of

Antioch, and last but not least Renaud of Transjordan. The army totalled about 50,000, 2000 knights and a host of native cavalry, Syrian infantry, archers, slingers, etc. The wood of the True Cross was borne by the bishops Rufin of Acre and Bernard of Lydda.

After various episodes, which do not concern this story but illustrate the vacillation of king Guy, the armies met in battle on 4 July, 1187 at the hill known as the Horns of Hattin, on the west of Lake Galilee. The Crusaders fought bravely, but worn out by heat and thirst and superior numbers were utterly defeated and the kingdom of Jerusalem was ended. Among the prisoners were king Guy himself, and many princes and barons, including Renaud de Chatillon. Saladin had them brought before him. They were covered with blood and dirt and panting with thirst. First were brought the Grand Master of the Knights Templar, Gerard de Redefort, and a number of his knights ; they had their throats cut. Then they brought king Guy and his brother Amaury, constable of the kingdom, Hugh of Jebail (Byblos), Humphry of Toron, Renaud's stepson, count Joscelyn, seneschal of the kingdom, and Renaud. Saladin gave them all a courteous greeting except Renaud, and made the king sit by his side. Only Renaud he reproached for his crimes and treachery and broken faith. Renaud replied insolently : ' The breaking of treaties is the privilege of kings, and I have trodden a well-worn path '. Meanwhile king Guy was tortured with thirst, and Saladin handed him a cup of rose water cooled with snow of Hermon. Guy drank and handed it to Renaud who emptied it. Saladin said to the king, ' I did not ask you to give this accursed man a drink. I am not responsible to protect his life ' (alluding to the Arab custom of protecting a man after giving him to eat or drink). He then sent the prisoners to rest, had his pavilion dressed with flags, summoned his staff, and recalled the prisoners, told Renaud he had twice vowed to kill him, urged him to abjure Christ, which Renaud defiantly refused, and then hewed him asunder with his own hand, as Samuel did to Agag, and sent his head to Damascus along with the other prisoners. Renaud was then about sixty, and had spent forty years in the Holy Land, sixteen in prison and twenty-four almost continuously at war from the borders of Turkey to the edge of the Indian Ocean. He was far the most famous crusader.

The crusaders' kingdom was now helpless. Acre fell three days later, then Nazareth, Jaffa, Sidon, Beirut, Ascalon and Gaza. Lastly in October Jerusalem opened its gates. There remained Transjordan Kerak which, always more tenacious than any, hung on for a year after the fall of Jerusalem, defying all appeals from Christians and Saracens, and only surrendered through famine in November 1188 to Saladin's brother. Montreal defied the Saracens even longer till June 1189, and one by one the other castles gave in, and once more the Saracens were masters of Transjordan and the Red Sea. Eimad el Din writes ' Kerak has yielded . . . it is this fortress whose insolent lord dared to invade the Hejaz . . . its conquest has at last made safe the Holy Place of Mecca '.

The Giza Necropolis

by J. W. Crowfoot

A History of the Giza Necropolis. *By* George Andrew Reisner. Vol. 1, pp. xlvii and 532, text-figures 325, plates 75, maps 6. Cambridge, Harvard University Press, and London; Humphrey Milford, Oxford University Press, 1942. £7 7*s*. 0*d*.

In 1842, exactly a hundred years before the date of this publication, Richard Lepsius landed in Egypt. His first visit to the necropolis of Giza, the beginning of what was for long to be the most fruitful work upon the site, is described in one of the letters he sent home. The letter has a pleasant ' period ' flavour. On the 15 October, a day chosen because it was the birthday of King Frederic William IV, Lepsius' party was pulled and pushed up the great pyramid and on the top of it with cheers for the king they unfurled the Prussian royal standard, the black eagle with the golden sceptre, the crown and the blue sword on a white ground, sketched and stitched by the artists of the expedition. The wind was blowing from the north and the head of the eagle turning northwards naturally drew their first thought to home. Then the panorama before them recalled all the Biblical associations of the scene, Abraham, Joseph, Moses and the place where Mary rested with the infant Christ. Last of all, Lepsius looked down on the wonderful field of tombs from which ' the Moses-wand of science now calls forth the shadows of the ancient dead '. For the next few months he was to immerse himself in the records of the men and women buried there, their offices, titles, relationships and estates : he found the tombs of father, son, grandson, even great-grandson, whole pedigrees of distinguished families : he could almost compose a court and state calendar of Cheops or Chephren. The expedition, so Reisner tells us, excavated and examined the chapels of about 97 tombs and published a map of the whole necropolis, plans of chapels and rock-cut tombs, copies of reliefs, some in colours—' a work of inestimable value '. ' We must, indeed, one day depart, Lepsius writes in a later letter, but it will be even then with the conviction that we leave an infinite amount of interesting materials behind which might still be obtained ', and in another letter he expresses his wonder that the spot should have been so little examined though it was the most frequently visited in Egypt. He would have been even more surprised if he could have foreseen that another sixty years would elapse before serious work was resumed.

The systematic exploration of the site started in 1902. Maspero was Director-General of Antiquities in Egypt and with his approval three interested parties, American German and Italian, then drew lots for different sections of the western cemetery which seemed to be the most attractive part of the site, the rest of the area, including the mortuary temples of the pyramids, being divided by agreement. Reisner, who represented at that time an expedition sent out by the University of California, secured the north strip of the west cemetery and the temple of Mycerinus, the German expedition represented by Steindorff the middle strip, and the Italians represented by Schiaparelli the south. In 1905 the Italian concession was surrendered and added to the share of Reisner whose work was sponsored henceforth by Harvard University and the Boston

Museum of Fine Arts. In 1911 the German concession was transferred to Junker who worked there until 1914 and again from 1925 to 1929, the last two years being devoted to the clearance of a small cemetery south of the Cheops pyramid. From 1929 onwards Professor Selim Bey Hassan has been excavating the tombs in the quarry cemetery east and southeast of the Chephren pyramid and elsewhere. Reisner's own work at Giza has been interrupted from time to time by other excavations, in Nubia, Samaria and the Sudan, but it continued off and on from 1902 till 1939 : in addition to the west cemetery and the temple of Mycerinus it has included the excavation of the cemetery east of Cheops' pyramid. These are the main works on which the history of the Giza necropolis is based.

The volume before us, which is only the first instalment of the history, falls into two parts. In the first part, after three short chapters on the historical relations of the necropolis, its topography and researches ancient and modern, Reisner turns to ' the basis of the general chronology of the Giza necropolis and the principles for determining the dates of the individual mastabas '. From this we pass on to what are called the nucleus cemeteries, the earliest planned divisions of the necropolis. Chapter v, entitled ' The construction and the types of mastaba cores in the nucleus cemeteries, deals with the materials, construction, lay-out and chronology of six early cemeteries (pp. 37–84) : chapter vi with the burial shafts (pp. 85–176) : chapter vii with the finished mastabas, cores, casings and chapels (pp. 174–304) : chapter viii with the decoration of the chapels (pp. 305–383). The second part of the volume consists of four appendixes with detailed descriptions of every mastaba in the early nucleus cemeteries of the west field, transcribed from the records and illustrated with numerous text-figures and 75 plates, the records including several from Junker's work. The records in the appendixes contain lists of all the objects found in the tombs in question, the portrait heads, flints, stone vessels, pottery and so forth with drawings or photographs, but the discussion of the finds and an account of the equipment of the chapels and burial chambers is reserved for volume ii, which will also include records in appendixes of the Cemetery en échelon west of Cheops' pyramid and the cemetery on the east. Volume iii will contain a chapter on the chronology of the finished mastabas, historical chapters on the royal family of Dynasty iv and the important families buried in the Giza necropolis, and more appendixes with descriptions of the secondary mastabas in the western field. Volume iv completes the description of the secondary mastabas and the rock-cut tombs.

Reisner could write readably enough when he was sending a report to the Boston Museum or a popular outline to *Sudan Notes and Records* : he rather enjoyed writing in fact, and amused some of us once with chapters from a historical novel on which he had embarked, the scene being laid in ancient Ethiopia ; but his longer works have been criticized as desperately hard reading ; and this work which promises to be the longest of all will be probably the hardest. But the criticism is hardly more relevant than a criticism in the same terms of a lexicon. The history of the Giza necropolis will be used as a book of reference, and we should ask not whether it is readable from cover to cover but whether the right questions have been put and whether the answers are accurate and easy to find. To help readers to use the book it is preceded by a table of contents which runs to 23 pages (xi–xxxiii) in very small type, with sections, subsections and not a few subdivisions of the subsections. With this before one it is not hard to find one's way about. It would be foolish to complain in these circumstances that there are not more green islands in the deep wide sea of fact.

Egyptology was in its infancy when Lepsius began his study of the mastabas at Giza. He was naturally preoccupied with the inscriptions and the new light thrown

by them on the lives of the individuals who were buried there in the time of the Old Kingdom under Dynasties IV–VI. Reisner was not less interested in the same society, but the progress of archaeology in the present century has compelled him to approach the subject from many other angles. The chronology of the tombs must be determined with the greatest possible degree of certainty and this cannot be done without reviewing all the other elements. Inscriptions may easily lead astray; there is much to be learned from the context in which they are found, and there are many tombs from which the inscriptions have disappeared.

The dating of individual mastabas entails a study of the lay-out of the site and a classification of the separate components of the monuments, the type of work in which Reisner excelled. Before a great man died the site of his grave was chosen or allotted, then the core of the mastaba, the shaft and burial chamber were constructed, a slab stela with his name was affixed and a funerary chapel built: after his death the coffin was lowered down the shaft, the proper offerings placed round it, the shaft was filled in and the chapel equipment completed. Years might elapse between the first of these operations and the last; the core of the mastaba might be begun in one reign and the burial take place in another.

To turn first to the lay-out: Reisner distinguishes six nucleus cemeteries, four west of Cheops' pyramid, one east and one south. In the four west cemeteries there were eighty mastaba cores varying somewhat in type but all of approximately the same size, about 24 m. by 10, and in the largest of the four the mastabas were regularly aligned in streets about 4.5 m. wide running from east to west and avenues 5.5 m. wide from north to south. The similarity in dimensions proves that they all belonged to personages of similar rank: a few larger ones belonged obviously to persons of more consequence. The east cemetery was laid out originally to contain twelve mastabas, double the normal size and therefore for people of higher rank, but sited as regularly. The variations in size point to the hierarchic organization of society, the orderly lay-out to the direction of a Royal Office of Works. On the strength of evidence from various sources Reisner proposes to arrange the cores in the six nucleus cemeteries in nine chronological groups, the oldest dating from the first five years of Cheops' reign, the latest completed in the reign of Mycerinus, but this arrangement is tentative and subject to revision.

The burial shafts in the earlier mastabas are discussed in chapter VI. They were about 2 m. square, the upper parts constructed in masonry, the lower excavated in the rock to a depth often of 10 m. or more. At the bottom of the shaft a short passage, sloping in some, horizontal in others, led to a chamber which was often more than 3 m. high: this was the place where the coffin, the Canopic receptacles and the funeral offerings were deposited. The passage was finally blocked with masonry, a portcullis stone let down in front of the entrance to the shaft and the shaft filled in. The development of the chambers is discussed and nine types of shafts with variations are distinguished (Figs. 19–59), and it is amusing to read later (p. 175) on the evidence of 353 shafts that no blocking of shaft and passage could prevent violation of the chamber though it did keep out rain water: many chambers were re-used in Ptolemaic-Roman days. Reisner is always interesting when he is describing ancient techniques and a study of the walls of many shafts, some of them unfinished, has enabled him to recognise several stages in their construction. After marking out the sides of the shaft the masons began by trenching with a hardened copper chisel the face of the rock to be removed. Next, they broke down the ridges between the trenches with smashing blows from heavy hard-stone hammers, continuing the two processes alternately till the bottom was reached. The excavation of the passage was almost as simple except that the grooving and smashing

had to be carried out on a vertical face; but that of the chamber was more difficult if, as was generally the case, the roof of the chamber was higher than the passage because the dust and chips would dribble back into the workmen's eyes: here accordingly a small shaft about a metre square was cut upwards and the masons worked out from it on all sides. Reisner suggests that the so-called windows from the shaft into the chamber may have been cut for the same purpose. The walls of the shaft were dressed downwards with a chisel or adze and rubbed smooth with a hard stone. At the bottom of some shafts there is a recess in the wall opposite the passage probably to turn the coffin. The coffin was orientated N–S and placed usually against the west wall, sometimes in a sunk pit. In Dynasties V and VI the pit was often roofed and the coffin dispensed with. A second, 'Canopic', pit or a built chest was provided for the internal organs of the deceased.

In the next chapter we return to the surface to consider the walls of the mastaba, whether faced or not, and the offering chapels which were built on the east side. The plans of the chapels—and of the majority little but the ground plan could be recovered—are various: twelve main types, each with variations, are enumerated and two plans which defy classification are put into a thirteenth 'anomalous' class for the benefit of future workers. The series is illustrated by a hundred plans (Figs. 93–193) with calculations of the relation of the chapel to the mastaba, the proportions of different rooms and such chronological conclusions as the material permits. The early chapels were simple developments from types evolved in Dynasties I–III: the more complicated plans start in the reign of Mycerinus when members of the royal family took to excavating tombs in the quarries left by the builders of the Cheops and Chephren pyramids. They now had more room to play with: vestibules, pillared courts, alcoves, extra magazines were added to the old offering places and simple courts, and there were longer walls to be covered with decoration. At the same time the rough surface of the nummulitic limestone in which the rooms were excavated gave rise to a new technique, the preparation of a heavy sizing of white plaster on which fine details could be modelled and painted. The rock-cut tombs recently cleared by Professor Selim Bey Hassan are probably the earliest examples of a type which became very popular in the Middle Kingdom. During Dynasties V and VI many different types were in simultaneous use, and the variety will astonish those accustomed to regard Egyptian art as changeless and uniform.

A chapter on the decoration of the chapels concludes the account of the structure of the tombs. The subjects, the table and offering scenes, the pictures of daily life in the country and the workshop, are familiar. The carpentry scenes and some pictures of carrying chairs in tombs of Dynasties V and VI may be singled out because they evidently represent actual objects found in the tomb of Hetepheres I, the bed and bed-canopy, the carrying chair, the armchair, head-rest, caskets and so forth: Reisner suggests that the carpenters were represented on the tombs because they were engaged in making funerary furniture, and so with the makers of boats, statues, sarcophagi, stone vessels, stelae, wooden furniture and personal ornaments (p. 350), but the agricultural and swamp scenes would have to be explained otherwise. In some of the later tombs there appear to be representations of new funeral rites, a stone-washing ceremony and a rite described as 'wiping out the footsteps' (p. 370).

The final impression left by this part of the first volume is the variety of the material. The general lines of the lay-out of the cemeteries were preserved and another constant feature was the simple benchlike form of the mastaba; elsewhere, in shafts, burial chambers, chapels, and decoration, individuals were free to make such variations as they pleased and there was large scope for new developments.

The second part of the book contains the records and photographs (plates 1–75) of the four early cemeteries west of Cheops' pyramid. The records of each cemetery are preceded by a brief discussion of the chronology : this is followed by complete field-records of the mastabas, row by row, with lists and line drawings of all the objects found and notes on later intrusions and constructions. The most elaborate, that of Prince Kanofer, occupies 9 pages of text and is illustrated by 11 text-figures, few of the others take up more than a page or two, but nothing relevant seems to have been omitted. To make the account complete, records of the tombs excavated by Junker have been transcribed on the same system from his publication, but without illustrations. The object-lists give a foretaste of the material which will appear in the first part of Vol. II. Particularly welcome are the photographs, each from four or five angles, of the ' reserve heads ' on plates 22, 34 and 52–56, highly individualized portraits in white limestone : the treatment of the surface, especially of the lips, is marvellously sensitive and we look forward to what Reisner had to say about the artists who made them.

Enough, I hope, has been written to convey some idea of the contents of this masterly work. In recent years we have learned much about other civilizations of the Early Bronze Age, but the Old Kingdom in Egypt is that with which we are most intimately acquainted. The daily life of the people, their great building achievements, the distant journeys they made to the country of the pygmies and elsewhere, the rational calendar they fixed, have been more or less familar for a long time. The necropolis of Giza has put our knowledge of the period on a new level. We now have vivid likenesses of a number of the individuals who composed this many-sided society, glimpses of their relationships, of the successive offices they held and the estates they acquired, the personal details which fired the enthusiasm of Lepsius. It was the opportunity of winning this knowledge which determined a man of Reisner's calibre to dedicate so many years of his life to this field. Like Browning's ' Grammarian ' he 'laboured over text and comment till ' his eyes grew dross of lead ' but the work was accomplished. Only a quarter of it appears in this volume and we have still to wait for the chapters on the ups and downs of the great families of the Pyramid Age : we hope it will not be long.

Siticulosa Apulia

by JOHN BRADFORD and P. R. WILLIAMS-HUNT

'PARCHED' Apulia (1) still describes the dominant characteristic of this region of southern Italy as aptly as when Horace wrote. The climate is one of sharp contrasts, especially apparent on the treeless plain round Foggia (the district known as the Capitanata). There, some midwinter snow and a few intermittent days of heavy rain between January and March are offset by almost continuous, and often pitiless, days of sunshine from April to the end of September, with the thermometer reaching 105° in the shade and scorching winds from the North (2) in late summer absorbing what little moisture remains. The average annual rainfall at Foggia is only 18–19 inches, or no more than in parts of lowland Tunisia; but the fertile soil is today intensively cultivated by dry farming, with immense open arable fields. Harvesting begins at the end of May and, as there is often little depth of cultivated soil above the absorbent subsoils, by early in July the dusty ground is baked as hard as iron.

Conditions were thus most favourable to the appearance of crop-marks indicating the presence and plan of archaeological sites beneath, following exactly the same logical principles as those conclusively demonstrated in England by O. G. S. Crawford, the late Major Allen and others. The crops on the *Tavoliere* (as the plain between the rivers Ofanto and Fortore is called) could not fail to provide a most sensitive and visible index of any artificially increased depth of soil caused by former enclosure ditches and the like, whose retained moisture would vitally affect and promote nourishment and growth. This retention makes for a slight but significant postponement of ripening and bleaching in the favoured vegetation, compared with the rest of the crop. When vertically seen from the air, in the plan view, the details of this difference in colour and texture assume a coherent form. But it was not until just after the Armistice in May 1945 that we had leisure enough to test our expectations experimentally, and then only a few weeks remained before harvesting virtually removed the evidence.

Most fortunately in the interval during training flights and routine camera tests, a number of air-photographs were taken, comprising both verticals and obliques; the former by R.A.F. units, the latter (3) by the present writers when Army officers. They

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[1] *Epodes, III*, 16.

'Nec tantus umquam siderum insedit vapor
Siticulosae Apuliae,
Nec munus humeris efficacis Herculis
Inarsit aestuosius'.

The subject of the poem is the strength of the garlic seasoning in a dish eaten at Maecenas' table.

[2] See Semple, *The Geography of the Mediterranean Region: its relation to Ancient History*, p. 90.

[3] The basis of our method was the same as that of the late Major Allen, i.e. a hand-held 8 inch focal length camera operating at 1000–1500 feet, but of course using roll-film. A light aircraft of the Fairchild high-wing monoplane type (economical, sufficiently slow and easily manoeuvred) proved very suitable; particularly as there is room for an observer-map reader (in addition to the pilot and camera-man) with the special task of plotting the exact position of the sites photographed. If these are numerous and the region has few distinguishing physical features in detail—as on the *Tavoliere*—this addition proves of the greatest value when the work of analysis later begins.

resulted in archaeological discoveries of no little importance on the *Tavoliere*, which was examined with some thoroughness. The accompanying illustrations are chosen from a selection of these photographs which received a Security clearance and was passed for reproduction.

The major discoveries can be summarised thus :—

(1) 150 to 200 crop-mark settlement sites, previously unsuspected, of a characteristic and homogeneous appearance which suggested parallels with the Neolithic ditch-enclosed sites at Matera in southern Apulia, and at Stentinello in Sicily, hitherto isolated examples of their kind. Trial excavation and field-work later provided pottery confirming a Neolithic-Chalcolithic (*Eneolitico*) date (4), probably for the whole of our new group.

(2) An extensive system, not hitherto known, of Roman field-partition by centuriation, covering the central and southern parts of the *Tavoliere*. This, too, was revealed by crop-marks caused by the boundary ditches between, and inside, the large square *insulae* of land marked out. Detailed analysis will give interesting social and economic evidence, for it is possible to study the internal subdivision of many of the *insulae*. Unlike the system of Roman centuriation still embodied and visible in the modern agricultural boundaries along the Via Emilia between Cesena and Bologna, this great Apulian field-system was, at some period, abandoned and was thus preserved (frozen, as it were) from the centuries of alterations in the internal partition of each *insula* that naturally befalls a living organism. The present field-pattern follows an entirely different course and gives no clue to the existence of the elaborate, regular, ' grid ' of ditched fields that now lies beneath the surface. Several Roman homestead sites (' villas '), associated with the centuriation, are also clearly visible.

(3) More than two dozen assorted earthworks, most of them unrecorded and of medieval date. Some should throw fresh light on the activities of Normans and Hohenstaufen in this area. By good fortune the crop-marks of several abandoned medieval field-systems of a distinctive type, associated with earthworks, were also photographed. These will illuminate the obscure lot of the Apulian peasant.

(4) Finally there exists a great mass of miscellaneous crop-mark sites. It is hoped that after careful comparative analysis other groups of sites will be recognised and found to be assignable to other periods, e.g. perhaps to the Early Iron Age.

It will be inevitably a little while before all this detail can be located on the map, measured, and studied with the care it deserves, but fair progress has already been made. In the meantime the present interim report on the sites of Neolithic-Chalcolithic character is put forward as a preliminary account (5) of that aspect of the discoveries.

Terrain, as always, is the decisive factor in determining the pattern of prehistoric settlement. It is important to distinguish between the three well-marked topographical zones into which Apulia falls (excluding the Salentine peninsula—the extremity of the ' Heel '—with which we are not concerned here).

These are, from north to south :—

(1) The Gargano. A wild rugged peninsula that juts far out into the Adriatic, and on the landward side presents a mountain-wall face to the *Tavoliere* below, with

[4] This included sherds of thin-walled, evenly-fired black and brown bowls and basins highly burnished on both surfaces ; smooth well-finished, buff-coloured ware painted ' *a fasce larghe* ' in red, etc.

[5] It is intended to deal next with the pottery of Neolithic-Chalcolithic type, from the selected test-site , near San Severo ; followed by brief reports on the Roman centuriation of the *Tavoliere*, and on the earthworks. (J.S.P.B.)

peaks reaching 3500 feet. Remote and isolated it has always retained a primitive economy and outlook (6), nor could it have ever had a prehistoric population of any size. Reconnaissance quickly confirmed that the broken ground and small terraced fields virtually ruled out any hopes of crop-mark sites.

(2) The Tavoliere. A bare rolling plain, almost steppe, forming a roughly oval area some 60 miles in length from the Fortore to the Ofanto, and with a maximum width of up to 30 miles from the sea to the first serious foothills of the Apennines. Though it appears so flat there is now and then a gentle hillock (known locally as a *Coppa*) rising above the immediately surrounding country, in height varying from a few feet near the coast (e.g. Coppa Nevigata), to 150 feet or so, as one passes inland towards Lucera or Cerignola. These *Coppe* were much favoured in the Neolithic-Chalcolithic period. As they were also sought out by medieval and modern farmers, in order to raise their dwelling a little out of the malarial air it is by no means uncommon to see a *Masseria* neatly surrounded by the crop-mark of the enclosure-ditch of a Neolithic settlement. At the back of the plain a series of stream beds have cut steeply-sided, meandering, channels as they issue from the hills, and on low spurs along their banks (7) there are numerous Neolithic sites with single or multiple ditches on the exposed side (in one notable case with eight, arranged in two groups of four), generically similar to promontory forts.

The broad sandy beach 35 miles long from Manfredonia to Barletta which forms the sea frontage of the *Tavoliere* must have presented an easy environment to primitive fishing craft and would have been a very attractive feature on that account. Shell débris was found on our Neolithic-Chalcolithic test-site near San Severo, some way inland.

It is of special interest to observe that certain parts of this area have remained unploughed since the Roman period in spite of the great extension and alteration of the cultivated area fostered by the Fascist government. This explains the existence of an excellent series of grass-mark sites which are often just as clear as those seen in the crops. The physical destruction, together with the social and economic disruption wrought by the Lombards in the 5th century, and Islamic attacks in the 9th and 10th centuries, reduced this area (previously intensively and methodically cultivated, as the discovery of the centuriation shows) to a great open common or moorland covered with natural scrub on which Frederick II, ' Stupor Mundi ', delighted to hunt.

(3) The Murge. Bare undulating hills which form the south and south-east boundary of the *Tavoliere*, increasing gradually from 500 to 2000 feet and growing wilder and steeper as they rise towards the jagged backbone of the Appennines. These bleak stony downs, however, hold broad valleys and rolling plateaux which were attractive to Neolithic settlers. In general this region is far less suitable for the aerial photography of crop-mark sites than the *Tavoliere*; much of it is covered with small fields, bearing very mixed crops, all cultivated independently, though there are large open fields on the uplands round Matera which should give good results. But, having concentrated on the *Tavoliere*, it was not possible to examine the Murge until the first fortnight in July, when the harvest had been gathered for some weeks. Stubble-marks had proved quite

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[6] As one example of this it is of interest, anthropologically, to note that during the winter of 1943–4 when the plain of Foggia was crowded with the latest stream-lined aircraft that mid-20th century science could devise, inhabitants in the main street of S. Nicandro Garganico (a few miles into the hills) fled precipitately into their houses making the *Mano cornuta* sign to ward off the evil eye of the fair-haired stranger, possibly a *Jettatore*, when I first entered the village in an open car. (J.S.P.B.)

[7] e.g. along the Triolo, Salsola, Vulgano, Celone, Cervaro, Carapelle, etc.

effective in the identification of these Neolithic sites on the *Tavoliere* in early June, but on the sun-dried Murge little result was obtained in that way.

On the coastal belt the nature of the cultivation changes quite suddenly south of the river Ofanto, giving way to a dense covering of vineyards and olive groves. The country is so cut up by these small holdings that virtually no crop-marks were identified. This alteration is chiefly due to the change in surface-geology, to a form of limestone reflected also in the shoreline where the sand gives place to dangerous, flat, rocky ledges with only an occasional cove.

We will now turn to a description of chosen illustrations (**8**). Except where the development of the argument makes an expression of opinion necessary, the observed facts and measurements made from the photographs have been separated from the deductions ; the latter being assembled in a later section.

The fact of primary importance about these Neolithic-Chalcolithic sites is their remarkable homogeneity as a group ; a general uniformity that is especially impressive when one has studied the whole series of nearly 200. With a very few exceptions all are surrounded by one or more ditches. The larger type of site (big enough to be called a village) has multiple ditches set close together, while the smaller kind (units which, originally, may have been equivalent to a farm or a family) has usually only one or two but is like a smaller version of the former. However there are a few of the smaller and intermediate sites (noticeably in the southern part of the *Tavoliere*) which *are* surrounded by multiple ditches and this is also true of many of those (all sites of the smaller kind) which are sited like promontory forts, but are clearly only a variant, adapted to environment. There are no other crop-marks on the *Tavoliere* which resemble, even remotely, these here discussed.

Plate IA (oblique) shows a typical example of the smaller, ' homestead ', type of Neolithic-Chalcolithic site on the *Tavoliere*, of which about 100 have so far been identified from the air-photographs. Though there are a few variations in individual cases, they usually consist of (I) a roughly circular innermost enclosure ditch (on plate IA, *c.* 160 feet in diameter), which we shall provisionally call the ' domestic ' enclosure, surrounded by, or adjacent to, (II) a larger oval or circular enclosure ditch (here *c.* 500 feet in diameter), experimentally termed the ' farmyard ' and often by a third enclosure ditch, concentric with the ' farmyard ' enclosure, but from *c.* 50 to 200 feet further out. In this particular example the outermost enclosure-ditch rejoins the second after the completion of only one half of the circumference, and seems to be a secondary extension. It is normal for the ' domestic ' enclosure to be sited, not concentrically with, but towards one end of, the ' farmyard ' enclosure surrounding it (as on plate IA) (**9**). The former is sometimes inserted into, and against one side of the latter, or occasionally is adjacent and semi-detached (**10**). These ' homestead ' sites, present in such numbers on the

[8] During 1945, when in Rome on the staff of the Monuments, Fine Arts and Archives Subcommission of the Allied Commission for Italy, I was most fortunate in having opportunities for the general discussion of these crop-mark sites with Professor Barocelli, Director of the Museo Preistorico-Etnografico, to whom I am particularly grateful, and with Professors Fraccaro, Lugli Mancini and Patroni all of whom kindly helped me in a number of ways, as did Lt.-Col. J. B. Ward Perkins, the Director of the Sub-Commission at that time. (J.S.P.B.)

[9] Compare the closely similar plan given by Dr Ridola, of the Murgecchia site (op. cit. Tav. v) at Murgia Timone, near Matera. *Bulletino di Paletnologia Italiana*, XLIV, 1924, Tav. VI, one of the Matera group of homesteads.

[10] This was also found by Ridola. See also Rellini, *Villaggi preistorici trincerati di Matera*, *Revista di Antropologia*, XXIII, 1919.

Tavoliere are clearly in the same class as those on the Murge close to Matera, 100 miles to the south, four of which have been recognised since the first investigations of Dr Domenico Ridola and Prof. Patroni just 50 years ago. None, however, has yet been fully excavated. Two of them (at Tirlecchia) were acutely identified early in June 1916 by Dr Ridola from their outline in the crop and the reason for the crop-mark was recognised by him. The enclosure ditches round the Matera sites, which are cut in the rock, ranged in width from 5 to 8 feet, and in depth from $3\frac{1}{2}$ to 8 feet. On plate IA, the width of the ditches (which does not vary between the different enclosures) is from 8 to 10 feet; this seems to be a fair average for many of our smaller sites. It should be observed that the measurements of the width of ditches made from vertical air-photographs proved very exact when checked by excavation on our test-site. The inner of the roughly circular ditches at Murgecchia, which measured *c.* 160 by 230 feet, corresponds to the 'domestic' enclosure of our site on plate IA, while the outer one, equivalent to our 'farmyard' enclosure, is *c.* 450 feet across. Thus the size of both enclosures at Murgecchia corresponds quite closely to our example.

Inside both the 'domestic' and the 'farmyard' enclosures of the 'homestead' sites on the *Tavoliere* (but more numerous in the former) are to be seen from four up to about a dozen circular, penannular, and semi-circular enclosure ditches of a much smaller kind. It is proposed to call these features 'hut-enclosure ditches', thus anticipating the later discussion of their significance. As it happens they do not show clearly on plate IA (though traces of several are visible on a vertical photograph) but are clearly shown on plate IB, inside the 'domestic' enclosure of that site. On these sites of 'homestead' type there is often a large, principal, 'hut-enclosure ditch' near the centre of the 'domestic' enclosure. Inside the sites of 'village' character they are of course much more numerous but do not seem to differ in any essential characteristics. In general, they vary from *c.* 50 to 110 feet in diameter, including the width of the ditch itself which (measured from vertical photographs) usually ranges from between 4 to 10 feet across, but sometimes has segments of its circumference widened (? by re-cutting) to 20 feet (see plate 2). As far as can be seen, at present, the openings in these 'hut enclosure ditches' are always orientated in approximately the same direction within each particular site, and (though this can only be stated provisionally) they seem to be confined to points of the compass between ENE and WNW; that is in a northerly and not, as one might perhaps expect, in a southerly direction.

In the sites of 'homestead' character, and in some of the sites of an intermediate nature approaching the village-type, it is common to see the special form of entrance noted by Dr Ridola at Murgia Timone (11) and Tirlecchia (12), and is characterized by a small external bulge in an otherwise continuous ditch; as seen, for example, on the nearer side of the 'farmyard' enclosure on plate IA (13). At Murgia Timone and Tirlecchia it was found to belong to the circular ditch equivalent to our 'domestic' enclosure, and is frequently so found in our sites on the *Tavoliere*. We may therefore

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[11] op. cit., Tav. v.

[12] op. cit., p. 27, fig. 3.

[13] The remaining crop-marks on this plate do not concern us now. They included a square enclosure (? Roman) overlapping the further side of the 'farmyard' enclosure; a track junction and fragment of field system (Medieval, by analogy with others associated with earthworks); a large square enclosure in the upper right-hand corner (partly obscured by cloud-shadow) adjoining the present farm-track; and a prominent-L-shaped crop-mark, the isolation of which a vertical photo confirms, probably connected with sheep-folding (thought to be post-Roman).

conclude that it is a standard and uniform feature in settlements of this period throughout Apulia.

Plate 2, which is an enlarged portion of a vertical air-photograph taken on 23 May 1945, and plate 3 (an oblique view of part of the same site) illustrate one of the larger of the second class of Neolithic-Chalcolithic sites on the *Tavoliere*—those which may be termed ' villages ' or ' kraals ', circular in form and having multiple ditches. These settlements exhibit characteristics of the greatest interest. That shown on plates 2–3 is unusual in that the enclosed area appears, from the distribution of the ' hut-enclosure ditches ', to be sub-rectangular ; but the crop-marks in the upper left-hand corner of the photograph are inadequately recorded by reason of the absence or unsuitability of the vegetation.

Another feature uncommon in these sites is the approximation to a *right-angled* change of direction in the enclosure ditches seen on the lower central part of plate 2. It will be observed that the middle ditch of the three on the right-hand side is incomplete, and other photographs show unexcavated gaps in its length, on the further side of the road. These enclosure ditches measure from *c.* 12 to 25 feet across, and are shown in detail in the foreground of plate 3.

This village has an overall measurement (i.e. including the surrounding ditches) of approximately 800 by 500 *yards* (**14**), and lies in one corner of a very large, roughly oval, area (enclosed by a single ditch) between two and three times the extent of the village itself. The longer axis of this great enclosed annexe, clearly indicated by the crop-mark of the ditch, measures about 1500 yards. No ' hut-enclosure ditches ' have yet been identified within it, and thus it must probably represent either (I) a kind of ' home-paddock ' in which herds grazed under the villagers' protective eyes (at night or at certain seasons), or (II) the most valuable cultivated ground immediately adjoining the village. However these explanations are not mutually exclusive. A second definite example of a big village lying within, and at one end of, a ditch-enclosed area of greater size than itself, has also been established. The relationship, in position, of one to the other is reminiscent of that of the ' domestic ' to the ' farmyard ' enclosure on the ' homestead ' sites.

Although at least one-third of the interior of this village, from this nature of cultivation at the time of photography, has not provided us with crop-marks, some 90 ' hut-enclosure ditches ', or fragments of them, have been counted in the remaining area. It will be seen (plate 2) that all have their openings in the same general direction ; in a few cases these ditches appear to have been re-cut, or the area demarcated by them subdivided internally (**15**). It is not of course suggested that they were all inhabited simultaneously. Fifty-five were chosen as being sufficiently clear to give reasonably accurate data ; and their mean overall diameters (including the ditch) range as follows :—

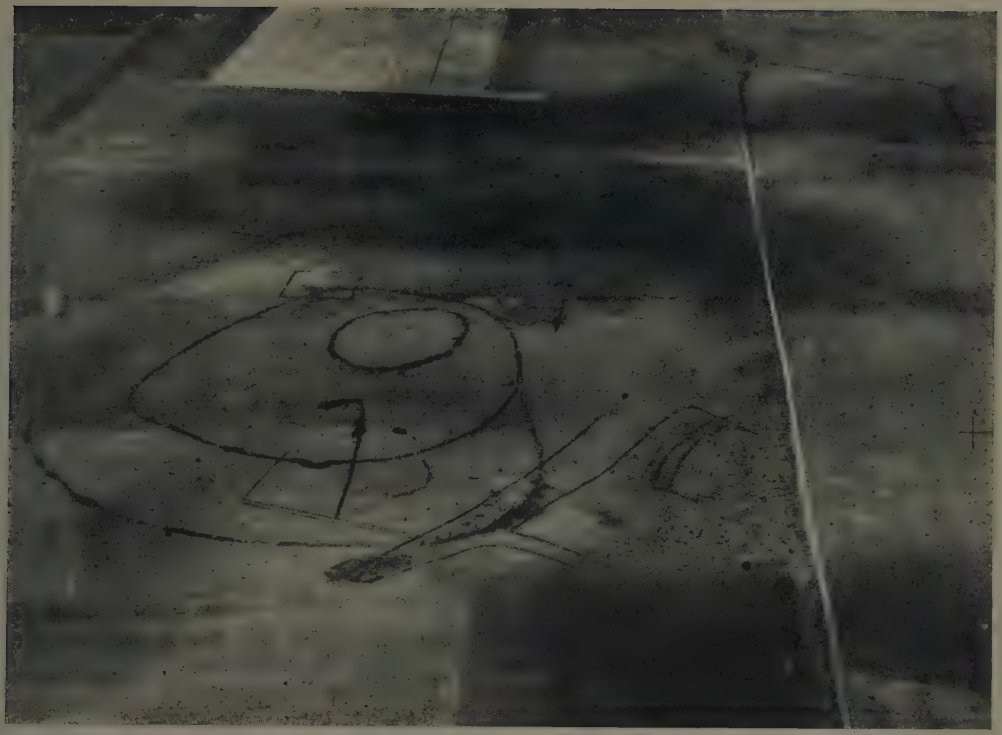
45 to 70 feet across	.. .. ..	70 per cent
70 to 90 „	.. .. ..	20 „
90 to 150 „	.. .. ..	10 „

The percentage of those less than 45 feet across is negligible. The three largest measure *c.* 120, 125 and 150 feet respectively. A very large circular enclosure, with an apparently

[14] This great size can be appreciated by comparing the main enclosure at the Neolithic village of Köln-Lindenthal which measured *c.* 200 by 240 yards overall (including the ditch) ; see *Germania* vol. 19 (April 1935), plan facing p. 112.

[15] Air-photographs of other sites show that sometimes the openings are closed by crop-marks resembling a palisade-trench ; in other ' hut-enclosure ditches ' there was evidently no intention of trying to close the gap with a ditch, and brush-wood or hurdles may have been partly employed.

PLATE I



A. OBLIQUE. TYPICAL CIRCULAR ENCLOSURES OF A 'HOMESTEAD' SITE, ETC.

B. OBLIQUE. 'HUT-ENCLOSURE DITCHES' INSIDE THE 'DOMESTIC ENCLOSURE' OF A 'HOMESTEAD'

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facing p. 196

VERTICAL. A 'VILLAGE' ENCLOSED BY DITCHES.
Compare oblique of same site on PLATE III

LOW-LEVEL OBLIQUE OF 'HUT-ENCLOSURE DITCHES' WITH VILLAGE DITCHES IN FOREGROUND AND BACKGROUND

(see lower half of PLATE II)

VERTICAL. PART OF VILLAGE SITE ENCLOSED BY DITCHES, HAVING LARGE EARTHWORK WITH TWO MOTTES SUPERIMPOSED

funnel-shaped entrance, which dominates the village (plate 2, near the junction of modern tracks) is here in a class by itself, being approximately 310 by 330 feet overall.

One might well have expected to see on plate 3 the crop-marks of post-holes had there been any elaborate timber-structures, but they are not apparent. It might perhaps be argued that the severe parching of the ground would tend to iron out differences caused by such small features. At Murgia Timone, Ridola excavated several circular storage-pits from 1 foot 3 inches to 3 feet 6 inches deep, and 2 feet to 4 feet 3 inches across. It is believed that these can be seen on the air-photographs of the *Tavoliere*, but care has to be taken to distinguish them from similar marks made by plantations of olive-trees which have since disappeared. Crop-marks of later periods are also sometimes superimposed on these Neolithic-Chalcolithic settlements, but almost always they can be distinguished from them with fair ease. Thus, the roughly parallel lines which enter plate 2 midway down the right-hand side, and those which cross the centre of plate 3 diagonally belong to a complex of trackways probably of medieval date. The parallel cultivation-furrows (? former vineyards) and the rectangular enclosure ditch abutting on the road on plate 3 may also be disregarded in the present context.

Another village is illustrated, for comparison, on plate 4. This is an enlargement of part of a vertical photograph taken on 2 June 1945. The large field on the right-hand side has no crops on it and so presents a blank, but that on the left shows the crop-marks of a number of ' hut-enclosure ditches ' (averaging 50–60 feet in diameter) surrounded by irregular multiple ditches, 15–20 feet across, which originally demarcated a roughly oval area. Part of this was later covered by a large kidney-shaped, medieval earthwork with a bank and ditch enclosing a kind of bailey with a species of motte (*c.* 160 feet across) in one corner, and another of similar size but detached, at the opposite end. The whole earthwork, excluding the ditch, measures *c.* 340 yards in overall length. This, and the other earthworks on the *Tavoliere* photographed from the air (most of which have scarcely any published documentation and some of which have none) will be discussed on another occasion ; the present purpose of this plate is to demonstrate the amount of detail which could be provided by vertical air-photographs to assist in the scientific excavation of one of these villages. But it must not be imagined that the majority of them have this rather disorderly appearance ; indeed they are notable for a symmetry remarkable in such large sites. More commonly the villages, in their main features, resemble a greatly expanded version of the ' homestead ', having multiple concentric ditches in the places where the smaller type of site normally has only one. We may take as a specimen (not illustrated here) a circular village measuring 530 yards across the inner area which is thickly covered with ' hut-enclosure ditches ' ; this is enclosed by two ditches each *c.* 15–20 feet wide placed 50 feet apart, and 220–260 feet beyond these is another pair of ditches of the same size and siting. The broad zone between the two pairs of ditches corresponds in position to the ' farmyard ' enclosure on the ' homestead ' sites.

We can now turn to a brief discussion of some general conclusions that are suggested by the facts. In the first place, a comparative study of the whole series of 150–200 settlements makes us tend to the view that the group belongs to one homogeneous archaeological culture-phase. Pottery from a selected site of village character, and also from a ' homestead ' indicates that both types of site were in existence by about 2300 B.C. There still remains a great deal of work to be done on the internal chronology of Neolithic-Chalcolithic wares in Apulia, to say nothing of establishing their external relationships and derivations. All agree that an important element (particularly the *vasi dipinti*), though not the only one, has clear affinities with certain varieties of

form and decoration found in the early Neolithic pottery of Thessaly (e.g. at Servia). This, however, will have to be discussed outside the present interim report on the crop-mark settlements, but the work of Miss Sylvia Benton on Neolithic sites from the coast of N.W. Greece has already opened the way to a fresh approach to the problem.

The number of settlements discovered on the *Tavoliere* confirms the long life of both types of site, which may well have extended over some five centuries. During this long period, villages and ' homesteads ' would be rebuilt many times as they became too filthy to live in, or soil-exhaustion round them seriously increased. Villages with detailed similarities of plan are often to be seen in such close proximity that presumably they must be successive. It is not yet possible to say whether there is a break in the continuity of occupation of sites of this kind at the Bronze Age, and only systematic excavation can provide an answer. Some further comment must be made on the probable nature of the ' homesteads '. It has been observed that the outer (' farmyard ') (**16**) enclosure, which does not seem primarily intended for habitation, nevertheless sometimes contains ' hut-enclosure ditches ' of the sort found in the ' domestic ' enclosure. But it should not be thought that the ' farmyard ' must imply ' animals only ', or their complete segregation. In this region, as in many parts of Europe, one may still see cattle and human beings huddled together in the same chamber, and in remote districts the belief dies hard that this is natural and desirable. Within the ' domestic ' or inner enclosure of a homestead there is sometimes one ' hut-enclosure ditch ' (**17**) of much larger size than the handful of others, but some intermediate settlements (transitional in plan to a small village) often contain a group (say 15) of approximately equal size. The relationship of the size of the ' hut-enclosure ditch ' to that of the structure inside is not yet known ; but it seems clear that essentially it is a form of compound and not structurally part of the hut(s) within. If, as is very possible, these ' homesteads ' were never a uniform agricultural unit, but primarily a social nucleus, i.e. a family group with sons and their wives (**18**), then variations in size would be expected. As a consequence of the discovery of these sites one may naturally ask : are units corresponding to farms and villages functioning side by side in this region by 2300 B.C., or can it be that the larger sites evolved from the smaller ones ? The evidence provided by interpretation of the air-photographs inclines one to the view that both types of community probably existed contemporaneously, and that the plan of the village was only an expanded version of that of the ' homestead ', amplified and adapted for larger numbers.

A rough idea of the appearance presented by the *Tavoliere* when strewn with these sites is given by air-photographs of the circular kraals of the Kavirondo (**19**) (agriculturalists and dairymen of Kenya) crowding the plain east of Lake Victoria, where occupied and extinct settlements of much the same size as ours are mixed together. One may perhaps venture the comment that the general uniformity of plan, and the

[16] The average diameter of this enclosure is from 400–600 feet overall. These dimensions can be visualized by comparing the familiar ditch-enclosed farmyard of the Early Iron Age excavated at Little Woodbury, measuring *c.* 460 by 400 feet overall.

[17] It is worthy of note that crop-marks generically somewhat similar to our ' hut-enclosure ditches ' were photographed from the air, by the late Major Allen, inside Dyke Hills, Dorchester, Oxon. See *Oxoniensia*, III, plate XVIII, or preferable *Luftbild und Vorgeschichte*, p. 46.

[18] Among the Masai a single ' patriarchal ' household often has its own separate kraal of some 20 to 50 huts which will move as a unit.

[19] Soc. R. U. Light, *Focus on Africa*, American National Geographical Society's Special Publication, no. 25 (1941). This comprises a valuable series of air-photographs taken on a flight from the Cape to Cairo ; there is a copy in the library of the Royal Geographical Society.

repetition of the practical, functional sub-division internally, found throughout these Neolithic-Chalcolithic settlements on the *Tavoliere* (executed with great regularity even in the largest villages) indicate a methodical, conservative, ingenious people, well knit-together both socially and economically. Normally one would hesitate to speak thus of a group as yet scarcely examined by excavation ; but never before has it been possible to view as a whole the detailed plans of such a considerable number of sites of a uniform nature from so limited an area.

The value of air-photography as a means of archaeological research in suitable terrain is illustrated when we consider the effect of the addition of this new group of settlements on the existing distribution map of sites of this period, regionally and nationally. Previously there were about ten known Neolithic-Chalcolithic sites (including occupied caves), strung out along the coast from the Gargano round as far as Taranto ; together with a scattered group on the Murge of which about ten sites can be identified definitely, principally round Matera (**20**). Only in a very few of these did the nature of the site or the record of its discovery make it possible to reconstruct anything like a general site-plan, to enable one to pass from the mere typological study of the pottery to a considered appreciation of the economic and social organisation of the people. From the *Tavoliere* itself there was only a small amount of mostly unlocalized occupation-material (chiefly flint tools) originating in the Foggia area. But there is no wish to minimize the field-work done by local archaeologists ; for, although the outlines of these crop-marks sites are visible on the plain at eye-level in a confused way, the only practicable method of discovering and mapping with accuracy such large numbers is by air-photography. The repercussions on the national distribution of Neolithic-Chalcolithic sites are also of interest. The most recent authoritative map (**21**) of this kind, based on Professor Patroni's researches, listed by name less than 150 sites in Italy, Sicily and Sardinia which had yielded occupation-material (not always associated with any clearly defined type of settlement).

No one imagines that distribution maps can ever portray more than a small proportion of the total of existing sites, but the probable addition of 150–200 settlements from one limited area—a number greater than all those recorded in the Peninsula and both islands—makes the overall pattern of distribution distinctly one-sided. Indeed one is tempted to suggest that when a recognisable type of site has been identified ' in the field ' no map of the distribution can be made without the full employment of air-reconnaissance, which does not raise very considerable qualms about its use. Where conditions of terrain are suitable for air-photography the work of many years of unaided fieldwork on the ground can sometimes be done in a few days (**22**). It is not a question of breaking records, but of quickly and accurately establishing that amount of material evidence needed to provide the numerical basis of the ' fair sample ', required in all

[20] The most southerly of the new Neolithic-Chalcolithic crop-mark settlements lies near the site of Cannae, across the Ofanto midway between Barletta and Canosa. This site thus forms a link with the contemporary ones on the Murge. Professor Orago, Soprintendente dell' Antichita, at Taranto, has kindly informed me that enclosures similar to those at Murgia Timone (Matera) were seen by him near Vernole, Province of Lecce (South Apulia).

[21] *Storia Politica d'Italia : La Preistoria* (1937) ; vol. 1, map facing p. 455.

[22] In Italy in 1938–9 aerial-photography was being used to solve topographical problems in Roman archaeology and a report on the results obtained from the first planned flying-programme was published by Professor Lugli, who had long advocated the employment of this method of field work ; see his *Saggi di Esplorazione Archeologica* a Mezzo Della Fotografia Aerea (Istito di Studi Romani).

research conducted with scientific method. On the *Tavoliere* air-photography has provided a group of Neolithic-Chalcolithic settlements for which there exist extraordinary opportunities for comparative study. The photographs supply much data, and suggest many interpretations of the evidence, too complex to be brought into this brief summary. Taken in conjunction with the ditch-enclosed settlements reported as far south as the Province of Lecce, and the partially examined sites on the Murge which have produced Chalcolithic pottery and have proved to be of the same nature, the new evidence suggests that ' homesteads ' and villages of the type described are numerously distributed all over Apulia. It should now be possible, with the precise and relatively complete site-plans available, to conduct excavations at selected points economically and with the minimum of difficulty ; thus one could present a uniquely full picture of an important formative period in the prehistory of Italy, distinguished aesthetically by the technical excellence of its pottery and socially by the developed nature of its communities. It is greatly to be hoped that a planned scheme of excavation with limited but definite objectives can be put into effect.

Fossil Finds in Kenya

Ape or Primitive Man?

by L. S. B. Leakey

Reprinted by permission of The Times of 23 August and 4 October, and also by Dr Leakey. The photograph of the fossil jaw 'Proconsul', discovered by Dr Leakey, is reproduced by the courtesy of the 'Illustrated London News'.

ONE of the earliest known true members of the primate stock ever discovered came many, many years ago from Oligocene fossil beds in Egypt. That discovery led some scientists to regard Africa as the possible evolutionary home of man and man-like apes. But, later on, important discoveries of fossil apes in the Siwalik Hills in India, in Upper Miocene and Pliocene fossil beds, led to a shifting of opinion, and it became customary to regard Central Asia as being the more probable centre of evolution for the great apes, and possibly the 'cradle of man' as well.

The great time-gap between the Oligocene primates of Egypt and the Upper Miocene fossil apes of India (and also to some extent of Europe) was partially bridged when Dr A. T. Hopwood, of the British Museum of Natural History, South Kensington, reported that he had discovered important new anthropoid fossils at Koru, in Kenya, in 1931. He had come to Kenya to be a member of my 'Third East African Archaeological Expedition' and to examine some fossil beds at Koru that had been found by Dr H. L. Gordon and Mr E. J. Wayland. The Koru beds proved to be of Lower Miocene age, as shown by an extensive fossil fauna, and Dr Hopwood described from them three new genera of apes as well as a fossil monkey. Shortly afterwards I and other members of my expedition found more fossil ape material in Lower Miocene deposits on Rusinga Island (in 1931 and 1932), at Songhor (in 1932), and again at both Rusinga and Songhor in 1935.

These further discoveries all indicated the great wealth of fossil primates in the Lower Miocene deposits of Kenya Colony and gave rise to the expectation that still more important discoveries would follow. Dr Hopwood named the three genera which he found at Koru *Proconsul*, *Xenopithecus*, and *Limnopithecus*. He regarded *Proconsul* as being a very close relative of the chimpanzees and *Limnopithecus* as being of the same stock as the gibbons. Sir Arthur Keith expressed the view in 1934 that *Proconsul* was really a member of the genus *Dryopithecus* which had already been recorded from Upper Miocene beds in Europe and in the Siwalik Hills in India.

In 1942, during a brief period of leave from war-time duties, my wife and I were able to spend five days on Rusinga Island (which lies at the mouth of the Kavirondo Gulf at the north-east corner of Victoria Nyanza) exploring the fossil beds for further Lower Miocene fauna. By the greatest of good fortune I found a jaw of *Proconsul* projecting from the face of a small cliff of the Lower Miocene beds, and 15 feet away we found a jaw of *Xenopithecus* a few minutes later.

The new *Proconsul* jaw was found with the chin embedded into the face of the cliff and the ascending *rami* projecting outwards. On one side the greater part of the ascending *ramus* had sheered away and had been lost (as the face of the cliff disintegrated)

and it was the ragged edges of the broken *ramus* that indicated the presence of the fossil. Fortunately on the other side only the external angle of the *ramus* had been broken off and the condyle—the part which articulates the jaw with the skull—was present and intact. When the specimen had been cleaned up in my laboratory it proved to be the most complete jaw of a fossil anthropoid ape ever yet discovered, at least so far as I am aware. The whole of the very important chin region and the symphisis of the jaw was intact. The dentition on one side was complete, and the condyle and coronoid on one side were preserved. Moreover there was no warping or distortion, so that we had a fossil in very good condition for study.

One thing was immediately clear—namely, that it was far less like a chimpanzee than Dr Hopwood had suggested as a result of studying the fragments which he found in 1931. The chin was much more vertical, there was no simian shelf (the ledge of bone on the interior aspect of the symphisial area of the jaws of all living apes, which is so characteristic of the great apes) and the condyle was in many ways quite unlike that of an ape and was more like the form seen in man. In a number of characters in fact this new jaw of *Proconsul* exhibits features which are not found in the great apes of today and which are much more like those to be seen in the human jaw.

This could mean one of several things ; it could mean that in *Proconsul* we have a near approach to a form of ape-like creature from which the human stem eventually was evolved, It could equally well mean that the form of condyle, chin, and symphisial region in the fossil was the common form in the anthropoid stock in the Lower Miocene period, and that in the course of evolution the stock represented by the great apes had tended towards the type of specialization which is seen in their jaws today, while the human stem had retained the more generalized form or else had specialized away from it in a diametrically opposite direction to that taken by the apes. Or it could mean that *Proconsul* was a member of the family which for some reason or another had early discarded ape-like characteristics, but had branched off into a line which had rapidly become extinct. I personally favour the first explanation.

The Lower Miocene beds are much older than the deposits of the Upper Miocene and the Pliocene which have yielded fossil apes outside Africa. The Lower Miocene period follows immediately upon the Oligocene period which, in Egypt, has yielded some of the oldest known primate fossils. This fact alone would tend to refocus opinion on the African continent as the possible cradle of man and manlike apes. But there is more to it than that. *Limnopithecus* from Kenya (of which we now have a good many specimens) is regarded by many scientists as an early member of the gibbon stem, and recently Dr Simpson, of New York, has placed *Xenopithecus* as a probable member of stock which gave rise to the orang-outang. When taken in conjunction with the fact that Africa is still the home of the gorilla and chimpanzee, these views mean that the African continent can be regarded as the original home of all the four genera to which living members of the ' great apes ' belong.

Recent discoveries in South Africa of important and highly evolved fossil apes in Pliocene and Pleistocene fossil beds of the Union also point in the same direction and reinforce the suggestion that the African continent was the great cradle in which man and the manlike apes saw the light of day.

There is one other aspect of the discovery of the new Rusinga mandibles of *Proconsul* and *Xenopithecus* which is interesting. When the Piltdown jaw and the Piltdown skull were discovered in Sussex in 1911 one of the most puzzling features of the discovery lay in the fact that whereas the skull was not very different (except in thickness) from the skulls of *Homo sapiens*, the mandibular fragment had certain markedly ape-like characters,

more especially the presence of a simian shelf at the lower interior margin of the chin region. But for the finding of the Piltdown jaw in close proximity to the Piltdown skull, the latter would almost certainly have been ranked as an early and primitive example of *Homo sapiens*.

Much controversy raged at the time (and is still raging in scientific circles) over the strange association of a very human skull with a very ape-like jaw. Some scientists have maintained that the Piltdown jaw does not belong with the Piltdown skull, but represents a fossil ape whose remains by chance became embedded in the same gravel patch as the skull. Those who hold that the jaw does go with the skull have argued, and still argue, that it would be too great a coincidence to have a human skull and an ape jaw preserved as fossils in such close proximity. Now, as I said earlier in this article, in 1942 we found on Rusinga Island a *Proconsul* jaw and the jaw of *Xenopithecus*—an entirely different genus—within 15 feet of each other and within the space of a few minutes. That represents quite as great a coincidence as the association of a fossil human skull and an ape jaw in the Piltdown gravels, and adds fresh weight to the views of those who hold that the Piltdown skull is human—a true *Homo*—while the Piltdown jaw is that of an ape. If this is true, then the Piltdown skull provides one more piece of evidence pointing to the early emergence of *Homo* as a distinct genus, contemporary with, but only distantly related to, the more primitive type of man represented by the genus *Pithecanthropus*, to which both the Java and Pekin skulls belong.

Acheulean Camp Sites

The discovery of Miocene Fossil ape remains in Kenya, of which an account appeared in *The Times* of 23 August, promises—they are long pre-human in age—to throw new light upon the origin of man and the higher apes. The Rusinga jaw is only one of several important discoveries made during 1942. During that same year, in April, my wife and I were fortunate enough to find an outstanding site of the great early Stone Age culture known as the Acheulean, at Olorgesailie, only 42 miles from Nairobi.

The finding of the site was made while we were following clues discovered in 1941 during a survey of the country lying round Olorgesailie mountain and in the floor of the Great Rift Valley. Eventually we found an area of well exposed ancient lake beds, and the systematic search of these brought us in April, 1942, to the area now known as Olorgesailie site 10. Here my wife walked suddenly on to an area so thickly strewn with Stone Age hand-axes and cleavers that one could scarcely walk over it without treading on them.

This led to much more important discoveries from the scientific point of view. A search of the area soon showed a number of distinct and different strata from which the specimens were being derived by sub-aerial erosion, and eventually in 1943 we proved that we had here at ' site 10 ' a series of actual living floors or camp sites of Acheulean man such as had never before been found anywhere. (The Acheulean or Great Hand-axe culture was first found in England by Sir John Frere in 1750, but its importance was not recognized until Boucher de Perthes started his important work in France much later, and the culture was eventually named after St. Acheul, where it was first properly studied).

The hand-axe culture is probably the best known of all the early Stone Age cultures and it is widespread in southwest Europe, the Near East, and in Africa, and yet one of the surprising things has always been how little we knew about the way of life of the makers of the culture. The reason for this lack of knowledge lay in the fact that practically all hand-axes have in the past been found in river and glacial gravels, or in brick-earth and loëss formations—found as objects isolated from their human context.

The chief importance of the new sites at Olorgesailie lies in the fact that here we have not one, but a whole series of actual camp or living sites of the Acheulean culture, interbedded between layers of lake sediments (clays and silts) on ancient land surfaces. Although the area of Olorgesailie today is practically waterless, it was, in the dim past of the Middle Pleistocene period, on the shore of a lake whose water level was not constant, but which fluctuated over periods of thousands of years.

At this particular part of the shore line, thanks apparently to the presence of a rocky peninsula, hand-axe man over a period covering many centuries used to camp near the water's edge. When the lake level rose his camp sites were flooded and he had to move away, abandoning most of his heavy stone implements ; when the water level eventually receded, the earlier camps had effectively been sealed in by layers of clay, and on the new shore line fresh camps would be formed, with a later stage of the hand-axe culture represented by the specimens made and left lying about. Then the process would happen all over again. And so, at long last, we have found a site where it is possible to study a series of occupation floors of hand-axe man much in the way that prehistorians have previously been able to study the successive stages of some of the later Stone Age cultures.

Owing to the war only preliminary work has been carried out, but next year detailed work will be begun. Already the deposits can be clearly dated on the basis of their contained fossilized remains of extinct animals, since the men who occupied the camps left the bones of the animals they fed upon lying about on the camp floors, and these have been preserved as fossils, together with the stone tools.

The fauna belongs to what is known as the Middle Pleistocene period, and contains many of the same genera and species that were found at the now famous Oldoway Gorge in Tanganyika Territory. Among them may be mentioned *Elephas antiquus*—the straight-tusked elephant—*Hippopotamus gorgops*—the hippopotamus with periscopic eyes ; *Notochoerus*—a gigantic extinct pig, some species of which were about as large as a present-day rhinoceros ; *Sivatherium*—an extinct member of the giraffe family with huge palmate antlers ; and *Simopithecus*—a genus of giant baboons.

The way in which the bones of these animals occur on the living site is interesting, because all the bones which could contain marrow have been split so as to extract it, while all skulls have been smashed to gain access to the brain. None of the bones shows any trace of having been burnt, nor is there any other sign of fire at the camps (so far as we have excavated them at present), which suggests that Acheulean man, at any rate in this area, was unacquainted with the use of fire for cooking. On the actual living floors another important discovery has come to light. It has always been a matter of speculation what weapon Acheulean man used for hunting, since his common tools—the hand-axe and cleaver—seem to have been domestic implements. Now we have found a number of round stone balls, some isolated, but in many cases in groups of three, strongly indicating the use of the *bolas*, still used in South America, as a hunting weapon. As to the men themselves, so far no trace has been found at Olorgesailie, but further work may yield skeletal remains.

The Olorgesailie site has proved to be of such interest and importance that the Kenya Government has cooperated in protecting it and turning it into a ' museum on the spot '. Already more than 600 visitors have seen it (although it is not yet officially open to the public), and next year it is likely to prove one of the most-visited places in East Africa. Parts of each camp site on being uncovered are being roofed over and left intact so that the visitor can see for himself on the spot these earliest known human camps of perhaps 250,000 years ago.

FOSSIL OF 'PROCONSUL' DISCOVERED BY DR L. S. B. LEAKEY

Top: The jaw photographed from above
Left: The jaw in profile
Right: The jaw, front view

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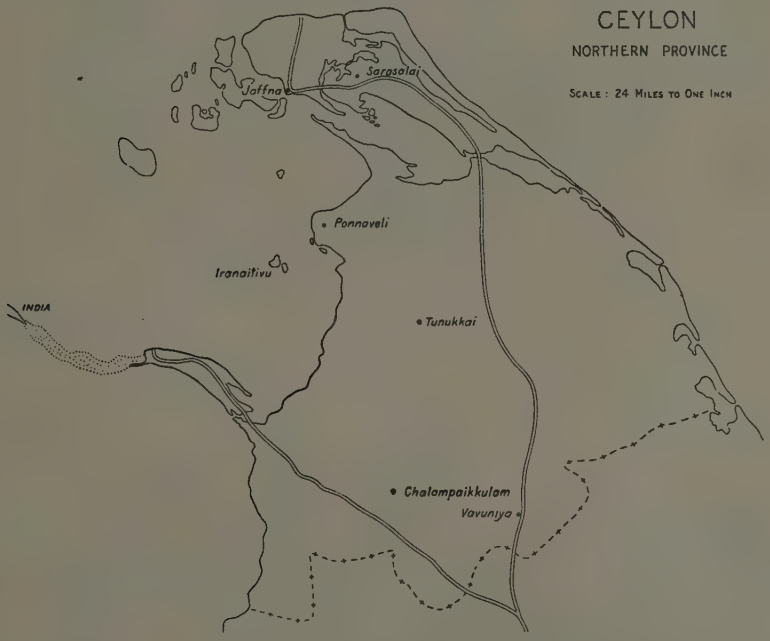
facing p. 204

Notes and News

CIRCULAR HOUSES IN CEYLON

The accompanying plans of circular mud-walled houses at Tunukkai and Sarasalai in the Northern Province of Ceylon illustrate what appears to be an indigenous type of dwelling of considerable antiquity, and may be of interest to your readers.

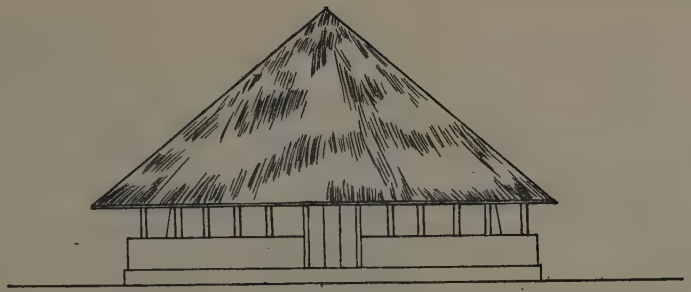
In the course of my circuits as an officer of the Government of Ceylon I have come across houses of the same type at Ponnaveli on the western coast of the Province, on the



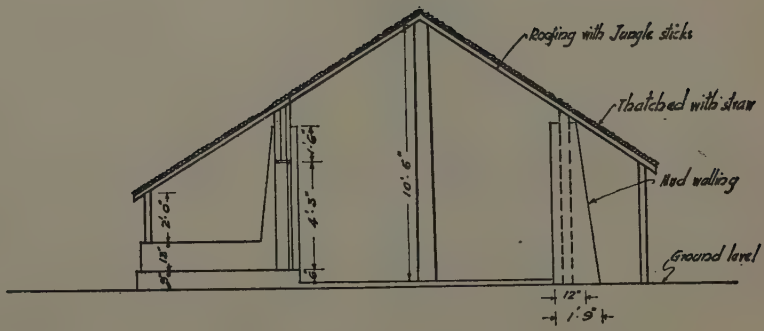
Iranaitivu islands opposite Ponnaveli, and at Chalampaikkulam, eight miles west of Vavuniya on the road to Mannar. The several sites are indicated on the spot-map.

It will be noticed that while the Tunukkai house and the larger of the two Sarasalai houses are of somewhat elaborate construction—the wall of the Tunukkai house is finished with a smooth glaze—the smaller of the Sarasalai houses is a very simple building. A notable feature of the two larger houses is the extension of the plinth in front to form the floor of a verandah on each side of the entrance.

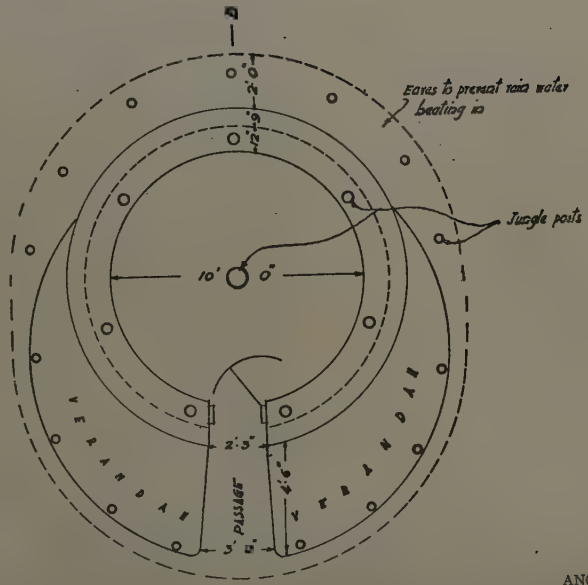
The houses of this type on the Iranaitivu islands are of a very primitive kind, being low huts of considerably less than a man's height, with the characteristic circular mud walls and ' cadjan ' (palm leaf thatch) roofs. Those at Chalampaikkulam—perhaps eight or ten in number—come midway in point of elaboration between the Tunukkai



·FRONT ELEVATION·

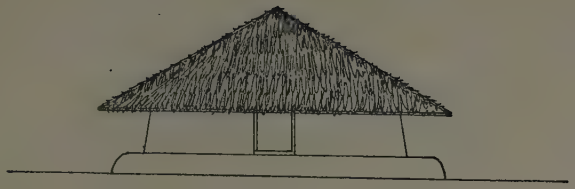


·SECTION·A·B·



·GROUND PLAN·

ANCIENT VILLA HUT AT TUNUKKAI, CEYLON
Scale : 4 feet to an inch



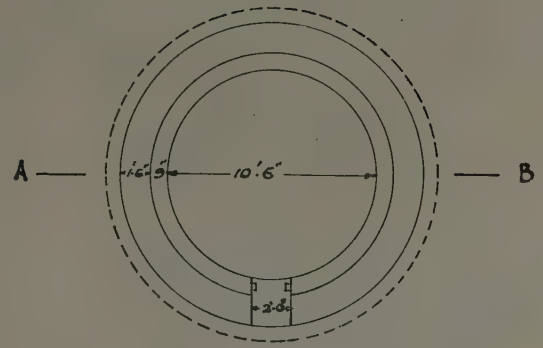
FRONT ELEVATION

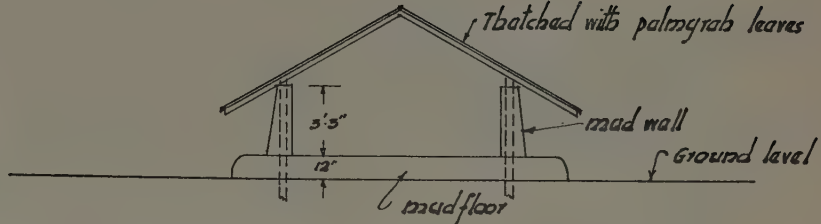
OLD MUD HOUSE

ON 4TH MILE CHAVAKACHCHERI - POINT PEDRO ROAD

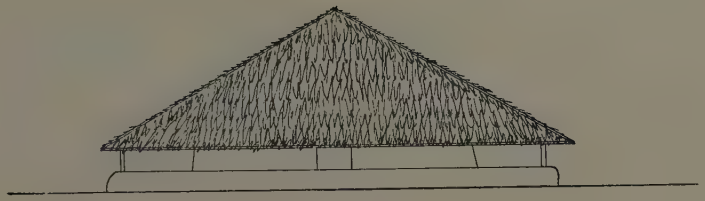
Scale:- 8 feet to an Inch

NOTES:- The building is 50 feet away from the main road
This was erected over 200 years ago.





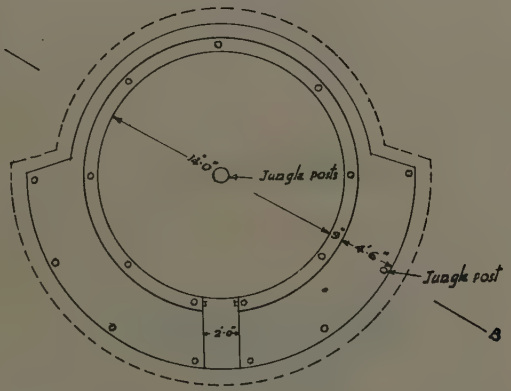
CROSS SECTION A-B

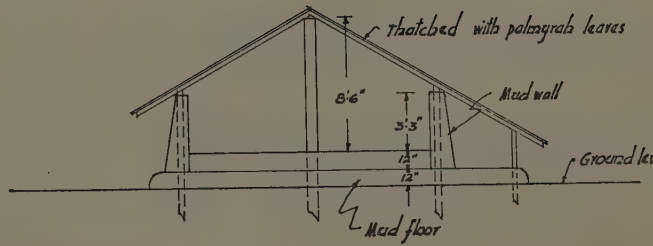


FRONT ELEVATION

OLD MUD HOUSE
ON 4TH MILE CHAVAKACHCHERI - POINT PEDRO ROAD
Scale: 8 feet to an inch

NOTES:- The building is on a lane 350 feet away from the main road.
This was erected over 200 years ago.





CROSS SECTION A·B

house and the Iranaitivu houses. One at least of these Chalampaikkulam houses is comparable in size with the Tunukkai house. The walls of the Chalampaikkulam houses are, however, of wattle-and-daub and not homogeneous mud walls, and the wattles are in most, if not all, cases left uncovered here and there in the upper part of the wall, under the protection of the eaves, to provide ventilation. These houses have no covered verandahs, but one or two of them have slight extensions of the plinth on each side of the entrance. I was informed that some of the Chalampaikkulam houses are of a considerable age, but that houses of this type have been constructed within recent years. It is likely that the tradition of building such houses will die out in the near future, owing to official discouragement of their construction in favour of rectangular houses which can be subdivided into two or more rooms.

The population of the Iranaitivu islands is a Pariah one, and there are reasons for thinking that these Northern Province 'Pariahs' are in fact 'Tamilized' Veddahs or at least of predominantly Veddah descent, though there are no longer any recognized Veddah families in this part of Ceylon. If I am right in supposing that the primitive Iranaitivu houses represent the prototypes of the more elaborated circular houses, it seems possible that we have in them an indication of the character of the earliest Veddah houses, so far as this part of Ceylon is concerned. It is, of course, a much simpler matter to set out the walls of a circular house than those of a rectangular house—a fact which was brought to my notice some years ago when I had occasion to set out the walls of a temporary rectangular building in a Coast Veddah village on the East Coast of Ceylon and to get the corners square made use of a 12-foot rope knotted at 3 feet and at 7 feet. This well-known application of the theorem of Pythagoras interested the villagers, who said that they had always had difficulty in getting the corners of their buildings square. It appears to be a fair inference from this that a circular type of house is *ceteris paribus* likely to be more primitive than a rectangular type of house.

I have to acknowledge my obligations to Mr T. Bartholomew, Superintendent of Minor Works of the Jaffna District, for most kindly measuring up the houses for me and drawing the plans, and to the Surveyor General, Ceylon, for the spot map prepared in his office.

R. B. NAISH.

ON THE NAME 'LEEDS'

Max Förster, in *Englische Studien*, LVI (1922), pp. 225 ff., treats the history of this name as follows. A Celtic river-name *Lotissa*, from *lŭto-* 'mud', became late British *Lŏdissa*, which was borrowed into Anglo-Saxon with 'i-epenthesis' as *Loidis*, the form given by Bede. *Loidis* developed regularly into *Lōedes*, by the ninth century *Lēdes*, and by the thirteenth century *Lēdēs*, whence the modern Leeds.

There are some serious objections to this etymology. First, the supposed Celtic name from *lŭto-* should be *Lutissa*, not *Lotissa*. Förster quotes as parallel a Gaulish *Lotusa*, the river Leuze; but this is obviously a mere vulgar Latin spelling of *Lŭtōsa*, a name which actually existed in Gaul, the river Loze. Secondly, *Lotissa* should have become later *Lodessa*, and would have done so before the time when it was borrowed into Anglo-Saxon; and this could not be taken over as *Loidis*. To avoid the difficulty Förster suggests that the borrowing was very early, but it is not probable that this could have happened before the change of *-i-* to *-e-*. Even if *Lodissa* were the source, it would be expected to give A.S. *Lydes* (*Luidis* in Bede) rather than *Loedes*; unless the borrowing were relatively late, which conflicts with the very early date necessary for *Lodissa*.

The best way to account for Bede's *ōi* is to take it as *oi*, giving regular A.S. *ōe*, which would be an umlaut of older *ō*; so Ekwall, *Oxford Dictionary of English Place-names*, p. 280. The only Late British sound which could have been heard by the Anglo-Saxons as *ō* is the older British *ā*, which became an open *ō* in Late British. As for the suffix, Loidis is a *regio* in Bede, and this makes it more likely to be a tribe-name than a river-name; presumably therefore one in *-enses* rather than *-issa*. This means a British name *Lātenses* or *Lādenses*, which would become in late British respectively *Lōdēses* and *Lōðeses*; and either would be taken into primitive A.S. as *Lōdīs*, whence regularly Bede's *Lōidis*, later *Lōedes*, ninth century *Lēdes*, the modern Leeds.

No obvious etymology for a Celtic *lād-* suggests itself; Ekwall's Indo-European *plōd-* (Greek πλωτός, English *flood*) is possible, but no Welsh or Irish derivatives exist in any such sense, which makes it not very likely. A Celtic *lāt-* on the other hand would become Welsh *llawd*, Irish *láth*, and both these words actually exist, in the sense of ' heat in animals '. The Welsh word is taken by Ifor Williams (*Canu Aneirin*, p. 193) in a passage in the Gododdin as meaning more generally ' heat, ardour, passion '. Hence *Lātenses* may well contain a river-name, *Lāta*, ' The Boiling or Violent One ; ' and the etymology of ' Leeds ' is very likely ' The Folk Living round the Lāta '.

KENNETH JACKSON.

LLWYFENYDD

Urien of Reged occupies an exceptional position among the Britons of the sixth century. His contemporaries, at the best, appear as little more than lay figures in incidents which tend to glorify the saints of the period, while Urien is himself the subject of much of the surviving work of Taliesin (1). Two of Taliesin's poems refer to Llwyfenydd, which the context shows to have been Urien's home. It is the purpose of this note to show that this place can be identified with as much certainty as can ever be attained for minor localities of this date.

According to the evidence of the poems, Urien's territory included Catraeth, almost certainly to be identified with Catterick, and another Welsh poem indicates that Carlisle was also in Reged (2). Reference to the O.S. map of Britain in the Dark Ages (north sheet) will show the river name Leveneth about midway between the two places. This stream is now the Lyvennet Beck in Westmorland, and it rises near the well-known group of early settlements in Crosby Ravensworth.

Concerning the name Lyvennet, Ekwall (3) says : ' The name is very likely to be equated as regards its ending with Welsh *Derwennydd* (*Deruentio*) *Llwyfenydd* (from W *llwyf* ' elm ' ; Watson 344), that is the ending *-ed* (*-et*) may represent a Welsh *-edd* or *-ydd* . . . ', and continues : ' The name might be derived from W *llwyf* " elm " . . . ', so although he finally prefers another derivation there seems to be no objection on philological grounds to equating Llwyfenydd with Lyvennet. Previous suggestions have been the district near Leeming Lane south of Catterick (4), and the area including a

[1] Sir John Morris-Jones, ' Taliesin ', *Y Cymmrodor* XXVIII (1918), p. 156 *et seq*. The weight of authority seems to favour the view that these poems are genuine survivals from the sixth century. The alternative theory, that they refer to events of the eleventh century in North Wales, seems to the writer far less probable, but this judgment is based only on a study of the ' authorities ', not of the original Welsh texts.

[2] ibid, p. 67.

[3] *English River Names* (1928), p. 276.

[4] Ref. 1, p. 71.

streamlet called Leuin near the head of Solway (5). These identifications depend on the assumption that Argoet Llwyfein, mentioned in another poem as the site of a battle, is to be connected with Llwyfenydd, but there is no evidence for this (6).

The identification of Llwyfenydd with Lyvennet seems therefore more convincing than any put forward previously. It remains to be considered whether the actual site of Urien's dwelling can be located. Two sites lie sufficiently close to the Lyvennet Beck for the identification to be plausible (7). Burwens, on the east, is a village of circular huts enclosed within a roughly rectangular rampart. Cow Green (No. 27), which lies on the edge of the ravine of the Beck, is composed of two irregular ovals, and has been partly destroyed owing to the erection of a rectangular house of two rooms, the smaller 13 feet square, the larger 30 feet by 15 feet with one end forming a three-sided apse. This structure attracted the particular notice of the investigators of the Historical Monuments Commission and earlier of Collingwood, who suggest that it may have been constructed by the earliest Teutonic settlers in the region. The *Inventory* also records several similar houses near by (No. 36), associated with dykes forming enclosures on the west side of the Beck, but Collingwood connects the dykes with a 15th century deer-park. Such dark-age houses as are known are generally rectangular, and it follows that the later house at Cow Green and the others near, rather than Burwens, are probably the actual remains of Llwyfenydd. It may be objected that a two-roomed house less than sixty feet long does not reach the standard which might be expected for the residence of such a powerful ruler, but Taliesin's poems do not suggest anything more than a country estate.

It has been shown that the Lyvennet Beck runs through the territory of Reged, that its name may be derived from Llwyfenydd, and that a group of buildings of dark-age type lies near its source. If future excavation should prove that the buildings do in fact belong to the 6th century, not only will this render a highly probable identification practically certain, but it will go far to confirm the authenticity of the poems.

A. H. A. Hogg.

DUAL PERSONALITY OF SAINT GILDAS

Modern studies of the life and writings of St. Gildas have shown a very understandable concentration on the chronological problems presented by the famous 26th chapter of his *De Excidio* (1). For this reason difficulties of a quite different nature have almost entirely escaped notice. These are basically psychological, and relate to the curious discrepancies between what Gildas tells us of himself, and the information furnished both by his biographers (2) and more incidental sources.

In so far as these discrepancies have been noted at all, the tendency has been to dismiss the ' Lives ' as late and unreliable. But in this case we should expect them to be marked by a large number of statements at variance with the known facts of the period,

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[5] W. J. Watson, *Celtic Place-names of Scotland*, p. 344.

[6] A good case could be made for associating the site of Argoet Llwyfein with the river Leven which enters the Tees near Yarm.

[7] R. G. Collingwood, *Cumberland and Westmorland Trans.*, N.S. XXXIII, p. 206. R.C.H.M., Westmorland, p. XLVI, XLVII, and map on p. 82. Nos. 27 and 36 refer to the *Inventory*.

[1] *De Excidio et Conquestu Britanniae*. In Mommsen; *Mon. Hist. Germ., chronica minora*, vol. III (1896).

[2] Bibliographies in Kenney, *Sources for the Early Hist. of Ireland*, I, pp. 150–2, and in Baring-Gould and Fisher, *Lives of the British Saints*, II, art. S. Gildas.

or with statements regarding Gildas from other sources. Such is not the case. When allowance is made for local bias, especially notable in the Glastonbury Life, we get a picture which is, within its limits, clear, self-consistent, and in no way contradicted by any outside source except the *De Excidio* itself.

Gildas, as seen by outside sources, is the son of a British kinglet named Caw, ruler of the fertile region of Areculta (Renfrewshire). Gildas, born perhaps *c.* 500, is one of a very large family, several of whom bear names of a decidedly Pictish cast (e.g. a sister, Peithien, ' Pict-born ', from *Pectigena). This is not surprising in view of their location, but it is to be noted that Gildas' father appears in medieval Welsh literature as Caw Prydyn, ' C. of Pictland ' (rendered ' of North Britain ' in Lady C. Guest's translation of the *Mabinogion*). It is possible that he is the Galan, Calan or Gawolan ' Arilith ' (of Arecluta ?) who ruled as High King of Pictland *c.* 512–23.

Gildas may have been monastery-reared, and certainly became a monk, but a period of secular (or at any rate non-celibate) life seems attested by the fact that two sons, Cennydd (cp. Kenneth MacAlpin) and Nwython (cp. Pictish Naiton) appear in Welsh genealogies. It is not easy to dismiss these sons as apocryphal, for St. Elfoddw, bishop of Bangor (ob. 811) traced his ancestry to Nwython, in precisely the right number of generations.

From Wales, Gildas appears to have gone to Brittany, where he founded the monastery of Rhuys, toward the middle of the sixth century. His reputation as an authority on monastic discipline led to an invitation to visit Ireland, about 569. He died, shortly after his return to Rhuys, *c.* 572.

In comparing the evidence from these sources with the internal evidence of the *De Excidio*, it will be convenient to refer to the author of that work as Gildas (A), while the saint of the Lives, Pedigrees and Annals is Gildas (B).

(a). Gildas (A) gives a completely inaccurate account of the Roman walls in North Britain. The kinglets denounced by him include no ruler north of Gwynedd. He shows no knowledge of, or interest, in the region which was the birthplace of Gildas (B).

(b). Gildas (A) refers to the Picts and Irish with unmitigated detestation (3) as heathen ravagers. Yet Gildas (B) is himself of Pictish descent, gives both his sons Pictish names, and is on cordial terms with Irish clerics.

(c). Gildas (A) is horrified by any breach of monastic celibacy (4). Yet Gildas (B) has two sons. This is of course susceptible of explanation in itself. It is only in connexion with other facts that it is worth noting.

(d). Gildas (A) is purely Roman in his sympathies. British dynasties of Celtic origin are treated scornfully (5). Gildas (B) sprang from such a family, and is a Celt from the outermost part of the Brythonic highland zone.

All this amounts to saying that Gildas (A) writes from the standpoint of a cultured and more or less anti-Celtic Romano-Briton of the fifth century, not yet forced to take cognizance of Irish and Pictish Christianity, nor of the Anglo-Saxon kingdoms arising in eastern Britain. For a pan-Celtic saint of the middle sixth century, such as Gildas (B) undoubtedly was, such attitudes would be anachronistic and out of character.

What is the explanation of this discrepancy ? Perhaps we have a clue in the saint's name. There seems to be no connexion with Goidelic *Gilla*, which comes from OC. **geislo-*, and would demand the addition of another name. Instead, the name Gildas

[3] *De Excidio*, c. 19.

[4] ibid. c. 32, 34.

[5] ibid. c. 21, 26, 27.

appears to be purely Latin, comparable to that of the ' tyrant ' Gildo who opposed Honorius. The name might have been selected as a sort of periphrasis for that of the ' last Roman ', Ambrosius *Aurelianus*, to whose memory Gildas shows such devotion (6). In any case, it has a very anomalous look amid the other children of Caw Prydyn- Peithien, Cywyllog, Huail, Gallgo, Meilig, etc.-Celtic to the *n*th degree. Its appearance there is most easily explainable as due to the fame of some Romano-Briton of that name. In other words, Gildas son of Caw, founder of Rhuys, was not the writer of the *De Excidio*, but his namesake. This represents a return to the earlier view which distinguished between Gildas ' Badonicus ' the writer, and Gildas ' Albanius ' the saint, but with a difference. The Rhuys and Glastonbury Lives both refer to Gildas son of Caw. Gildas (A), the ' historian ', has no biographer. We are thrown back on what we can learn from his own writings.

This has an important bearing on the chronological puzzle of chapter 26. Here, Gildas is usually supposed to say that he was born in the year of the siege of Mons Badonicus, which took place 43 years from some other event. The siege took place between 493 and 518, with the balance of probabilities in favour of the latter date (7). He wrote not later than 548, after a decade of urging on the part of his monastic friends (8) Thus, Gildas was already a person of note in British monasticism before 538. This is hardly possible in the case of a person born in 518. But if Gildas son of Caw was born not much later than 518, the man for whom he was named is not likely to have been born later than 480—too early for even the earliest possible date of Mons Badonicus.

Perhaps the most plausible solution is that suggested by Seebohm (9), that what Gildas meant to say is that he was born in the year of Ambrosius' victory over the Saxons (*c.* 474 ?) and had reached the age of 43 when another victory, at Mons Badonicus, brought the long war to a close. In this case, the *De Excidio* would have been written *c.* 540, by a man over 65 years of age, deeply out of sympathy with the younger, ' post war ', generation.

P. K. JOHNSTONE.

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[6] c. 25.

[7] Collingwood and Myres, *Roman Britain* . . . Appendix III, p. 460 ff. Hodgkin, *History of the Anglo-Saxon*, I, 123.

[8] c.1.

[9] *The Tribal System in Wales*, 189, n. 3.

Reviews

L'ART EN BELGIQUE : La Sculpture a l'époque Romaine, *par* MARCEL EDOUARD MARIËN. Editions du cercle d'art. *Bruxelles*, 1945. *pp.* 33 *with* 32 *plates.*

In four brief but scholarly and well documented chapters M. Mariën surveys the development of Gallo-Roman sculpture from the Roman conquest to the latter part of the third century, when, owing to increasing insecurity, production of such works ceased at Arlon and other centres of the Moselle valley area. The arbitrary division of modern political frontiers in a series entitled ' Art in Belgium ' imposes some handicap upon M. Mariën in illustrating the work of an area which really presents a fundamental unity. He partially surmounts this difficulty by including a few plates of sculptures from places beyond the Belgian borders under the title of ' materiel de comparaison ', such as the fine relief from Neumagen on the Moselle, representing a school scene. Most of the plates represent the remains of funerary or other monuments preserved at the museum of Arlon, the ancient vicus of Orolaunum, where a local centre of sculpture flourished for a long period during the Roman epoch. As is the case in other Roman provincial centres the remains include some products of high technical finish, which suggests that they are the work of artists of Mediterranean origin, or trained in schools familiar with the Hellenistic tradition. The most highly finished example of this ' official ' art included here is a female head of the first century, which, it is suggested, represents a Flavian princess (pl. IV). In this tradition too are the youth with a ram (pl. XV) and the dancer (pl. VI), which appears to be a stock piece of decorative work, of which very similar examples are to be found.

Although these works are not without charm, the products of the local school have much more appeal in their life and vigour in spite of their technical deficiencies. The craftsmen who carved for their local patrons the scenes of everyday life, the customer in a shop, the farmer going to market, the payment of rent, is not working in any highly formalized or conventional tradition. In looking at these creations one feels that the work had a future in it, and indeed it had, though long deferred. Of the little group representing payment of farm rent, a theme not uncommon in Gallo-Roman art, M. Marien writes :—

> ' L'opposition entre l'attitude précieuse du propriétaire et la mine patibulaire, poussée a la caricature, du fermier, forme un contraste étrange et saisissant. Sensible à la ligne gracieuse, et poussant le sens de la caricature jusqu'au monstrueux, ce sculpteur semble déjà exprimer deux qualités qui seront comme les pôles entre lesquels va se mouvoir l'art médiéval '.

The ' elegant ' style with its vertical lines, so suggestive of Gothic sculpture, appears in the ' Satyr ' stele (pl. XXIV), so named from the figure on its lateral face, and in the cloth dealer's monument (pl. XXVI). The tendency to exaggeration and broad treatment, which, as M. Mariën notes, sometimes gives an effect of caricature, in other examples leads to a vivid realism with a touch of the grotesque, as in ' the drinker ' (pl. XIII) or ' the schoolmaster ' (pl. II), or an intensity of pathos, which M. Mariën describes as a ' dernier echo de l'école de Pergame ' in the relief with the dying man at Vieux-Virton (pl. XIV). M. Mariën's admirable little monograph is produced with taste and will be welcomed by students and amateurs of Roman sculpture. G. F. FORSEY.

JAHRBUCH DES BERNISCHEN HISTORISCHEN MUSEUMS IN BERN: DIE UR- UND FRUEHGESCHICHTLICHE ABTEILUNG. Jahrgang XXII, XXIII, XXIV. 1943, 44, 45.

These are reprints from 'Jahrbuch des Bernischen Historischen Museums in Bern', dealing with the Museum's sections of prehistory and early history. They contain, among other material, reports on new archaeological finds in the Canton of Berne, an article on the tomb fields at Deisswil, a survey of fifty years of Bernese and Swiss archaeological research, a contribution on Burgundian Daniel buckles of the 6th century. All these contributions are expertly written and well documented, and the illustrations, line drawings as well as photographic plates, are exceptionally clear and well done. Although confined to Switzerland, and more especially to the canton of Berne, the material contained in these well produced annuals is of more than provincial interest, since Switzerland is rich in early finds, and her archaeologists maintain a high standard of work.

H. W. BELMORE.

ARCHAIC ATTIC GRAVESTONES. (Martin Classical Lectures, Vol. x). *By* GISELA M. A. RICHTER. *Harvard University Press* (*Humphrey Milford*), 1944. *pp.* XVI, 160: *drawings in the text, figs.* 1–27: *half-tones on plates at end of book, figs.* 28–108. 14*s.*

In these lectures Miss Richter applies to the archaic Attic grave stelae the scholarly and detailed examination which distinguished her work on the Kouroi. Comparatively few of these stelae are extant and indeed only one survives in its complete form with base, shaft, capital and crowning sphinx—the famous stele in New York, representing a young athlete and his little sister. However the fragmentary inscription on the base of the stele is reconstructed it is practically certain that it includes the name Megacles, and, even if the monument was not dedicated by the great Megacles himself to a dead son and daughter, it can hardly be doubted that it relates to a member of the famous Alcmaeonid family. It is one of the little ironies of history that the only complete example of a stele of this type owes its preservation to being broken up and buried not long after it was erected, presumably on the occasion of the exile of the Alcmaeonidae some time between 541 and 537, as we learn from Isocrates that not only were the houses of the Alcmaeonidae destroyed but even their graves were dug up. Miss Richter points out that costly and elaborate monuments of this kind were beyond the means of any but the wealthy and powerful Athenian families, such as the Alcmaeonidae, a circumstance which accounts for their rarity and the quality of their workmanship. The well known stele of Aristion is almost complete, having lost only the upper part of the warrior's helmet and the top of the shaft, consisting, as Miss Richter convincingly argues, of a volute and palmette finial in one piece with the shaft, as in the Louvre stele, also practically complete, which bears the incised, and originally painted, figure of a youth wearing a mantle and holding up a flower. For the most part however the remains are fragmentary, consisting of heads, portions of figures, bases or finials. The sculptured portions of these fragments exhibit work of the highest quality, with all the charm of early Greek art, and they have received much attention from archaeologists. By a close study of this material Miss Richter constructs a very convincing series showing the evolution of the type over the period 620–500 B.C. The stelae follow a course parallel to that of the kouroi and other early Greek sculptural and architectural forms. Drastic changes are few. The Greek artist of the archaic period is content to work within the pattern of an accepted type. In the case of the stelae, however, there is one marked break in the general line of development,

the point at which the flamboyant sphinx, which surmounts the earlier examples, is discarded. Miss Richter's careful examination of the fragments establishes the sphinx as an element of the earlier design and enables her to reduce the five classes proposed by Dinsmoor to two. The subdivision of each of these two classes into three by lesser differences gives a very firm basis to the chronology of the whole series. Type I (prevalent from about 600 to 530 B.C.) is characterized by a capital carved in a separate piece from the shaft and surmounted by a sphinx. Type II (prevalent from about 535 to 500 B.C.) has a volute-palmette finial carved in the same piece with the shaft. Miss Richter suggests that this change to a simpler form, whereby the elaborate and costly sphinx finial was abandoned in favour of a simpler and cheaper form, is connected with a sumptuary law mentioned by Cicero in a passage of the *De Legibus* (II, 26, 64) based on Demetrios of Phaleron, which, she suggests, should be associated with Peisistratus rather than with Cleisthenes as heretofore. The dearth of Attic stelae in the first half of the fifth century she ascribes to the general social and economic conditions resulting from the Persian war and the growth of Athenian democracy, rather than to this or any similar sumptuary enactment. Although these attempts to associate the development of the stelae with the general historical and social conditions must be to some extent flimsy and conjectural, they are attractively handled by Miss Richter and are not allowed to influence the rigour of her analysis of the details of the monuments themselves. Students of archaic Greek sculpture are once more indebted to her for a very thorough piece of work. The photographic plates with which the book is illustrated are of excellent quality. G. F. FORSEY.

THE RIVER JORDAN, being an illustrated account of Earth's Most Storied River. *By* NELSON GLUECK. *The Westminster Press, Philadelphia*, 1946. $3.50.

The publisher's blurb claims, on the authority of the Professor of Biblical Theology at Yale, that the author of this book is one of the few scholars of international repute who can ' write books which can be enjoyed by the general reader '. After reading it one is glad that there are not more, and sorry that Professor Glueck should now be one of them, for he is a serious student who has done much work of sterling value in Transjordan. The style of this book is that of the voice which accompanies (and usually mars) a travelogue from Hollywood. It is not the real voice of Professor Glueck. When he is writing for the Annuals or Bulletins of the American Schools of Oriental Research he is an ordinary human being like ourselves, recounting a plain story of discovery. When writing (as here, e.g. page 90) for the ' general reader ' his voice (and sometimes the subject also) acquires an artificial tremolo. He is thrilled by the mere sight of the hills of Moab which ' throb with the pulse of the past '. Even the very air is imprinted with the Spirit of God. When standing on the shores of the Red Sea, Professor Glueck once heard God talking on Sinai, some 30 miles distant—but it was not the ' still, small voice ' that he heard. (He describes it as the ' accents of Jehovah '). When seated in the tents of Ishmael he found himself ' peering into the faces of prophets ', for he is able to travel in time as well as space. (Perhaps it was those cruel, humourless faces that can be seen in figs. 43 and 45). On another of these time-trips he was lucky enough to be pacing the long banks of Jordan just when the ' people of Israel [were] crossing over to the Land of Promise ', but as there is no illustration of this we fear he must have been without a camera that day. What a lost opportunity ! Some of his illustrations are excellent, the view of Kasr Amra (fig. 60) being one of them, and fig. 103 another. But the transfer process is unsuitable for weak prints, such as the frontispiece and several others.

Occasionally the author is carried away by his enthusiasm to make claims which he must know to be absurd, such as that Jericho was one of the earliest homes of civilization (if that is really what the inflated language means) or that ' much of the literature of the New Testament was written in Greek '. It is *all* written in Greek. (pp. 190, 220). He also knows perfectly well that not even ' lordly ' palms ' afford abundant shade ' (*pace* George Robey).

Palestine is a very small country whose inhabitants invented two religions, both distinguished for intolerance, and produced some fine literature. The inhabitants have always possessed the trader's flair for publicity, often combined with a certain insensitiveness to the finer shades of feeling. Art never developed beyond an archaic stage whose best examples are merely ludicrous (fig. 64). Its contributions to civilization have been overrated, and its good name jeopardized by bally-hoo, of which we regret to say this book is an outstanding example. O.G.S.C.

THESSALISCHE MYTHOLOGIE. *By* PAULA PHILIPPSON. *pp.* 198, 1 *map and* 3 *plates*. *Zurich* : *Rhein-Verlag*, 1944.

This work is a study of the mythology and religious cults of Thessaly, the most north-westerly region of ancient Greece. The district, which may be described as a great central plain surrounded by mountains, was agriculturally the richest in Greece, but played little part in history, since its various tribes very rarely united in any course of action but engaged in local feuds. Thus they were to some degree isolated, both geographically and politically, from the rest of Greece, a condition which is illustrated by the presence of certain religious cults differing from those of most of the Greek states.

The author has collected a mass of evidence from literary, artistic and numismatic sources. Perhaps the most interesting points which emerge are the large number of Thessalian cults of the gods of the nether world and certain local cults, of which the most interesting is that of the centaur Cheiron who formed a triad of divinities with the hero Peleus and the Nereid Thetis, the parents of Achilles, who were worshipped in the district of Mt. Pelion.

The book contains an excellent map of Thessaly, three plates of Greek vase-paintings and a plate of coins, which, like so many Greek coins, provide important evidence about the religious cults of the cities and districts in which they were current.

The author has a thorough knowledge of the district with which she is dealing and is more reliable on points of geography and archaeology than in her interpretation of the literary sources. EDWARD S. FORSTER.

DER TOD DES HERAKLES. *By* FRANZ STOESSL. *pp.* 128. *Zurich, Rhein-Verlag*, 1945.

One marked difference between classical and modern poetry is that a modern poet takes his subjects from the whole of human experience, whereas the ancient poet was limited in the material at his disposal which was derived from a mass of traditional legend. Thus almost all the Greek tragedies are based on well-known stories and the interest of an audience was fixed on the manner in which the writer would treat the already familiar story which he had chosen as his theme.

The author of this book has set himself the task of showing how a series of poets dealt with and developed the well-known story of the death of Heracles.

Starting with a single reference in Homer, the author deals with the versions of the story in the poets Archilochus and Bacchylides and in the Trachiniae of Sophocles

(the most important treatment of the subject) and passes thence to the Latin writers Ovid and Seneca. His method consists mainly in minute analyses of these literary authorities, which cannot be detailed here. Amongst other arguments he traces a gradual deterioration of the heroic character of Heracles until he becomes the rather blatant and vulgar rhetorician of the Senecan play *Hercules Octaeus*.

Though the theme of this monograph is not of any very great literary importance, its treatment shows an acute literary sense and considerable erudition.

EDWARD S. FORSTER.

LE LIMES DE CHALCIS : organisation de la steppe en haute Syrie romaine. *By* R. MOUTERDE *and* A. POIDEBARD. (Délégation générale de la France au Levant, Bibliothèque archéologique et historique, tome XXXVIII). *Paris : Librairie orientaliste Paul Geuthner*, 1945. *pp.* XVI, 254 ; *atlas*, 121 *plates*, 6 *plans and map.*

The scene of the explorations which are described in this book is the district bordered on the west by the valley of the Orontes, on the northeast by the Euphrates and on the southeast by the hills of Palmyra. It lies west, therefore, of the frontier zone which was the subject of *La Trace de Rome*. Much of it is steppe land : the rainfall gradually diminishes from west to east, the precipitation over a large sector being less than 200 mm. The surface is broken by several massive basalt ridges and there is an extensive salt lake in the north. The east half of the region may be described as subdesertic : the plains provide grazing for pastoral nomads, but the hillier parts respond kindly to agriculture and the culture of fruit trees. It was traversed from north to south and from west to east by important arterial roads and the more favoured spots are dotted with the ruins of fortifications, churches, monasteries and farms. Many of the ruins, churches in particular, have long been known from accounts in earlier travellers, notably Musil and the two American expeditions directed by Butler : some have been exposed more recently by peasants hunting for building material.

The country lends itself to the type of aerial exploration of which Père Poidebard is a past master, and it is not surprising that his photographs from the air have revealed traces of numerous walls and irrigation works and cross-roads which were almost if not quite invisible on the ground. He has flown backwards and forwards over the area on a number of missions between the years 1934 and 1941, and the indications furnished by the air-photographs have been followed up on the ground by a small team of collaborators. Père R. Mouterde is a distinguished epigraphist : he publishes the new Greek inscriptions, is joint author with Père Poidebard of several other chapters and flew with him on one of his missions. Of the other contributors mentioned on the title page, M. Lauffray has given plans and technical descriptions of a large number of sites and buildings—M. Mazloum a valuable account of ancient irrigation systems in the area ; both also accompanied Père Poidebard on some of his flights. A note and chart of the rainfall in the region comes from M. Combier. Père Paul Mouterde has edited 15 new Syriac inscriptions. Every effort short of excavation was therefore made to verify and complete the evidence of the air-photographs. *Le Limes de Chalcis* is the outcome.

In his previous work on the eastern frontier Père Poidebard has given a classic account of the Roman limes in those parts, a broad zone of defence organized in great depth with numerous forts and strongposts connected together by a network of roads and commanding all the supplies of water in the open country. The title of this book is taken from a phrase used by John Malalas in his account of a raid into Syria made in

256 by Sapor I—' Le même Sapor ', to quote Père Poidebard's translation, ' roi des Perses, à la tête d'une armée nombreuse, franchit le " limes de Chalcis ", s'empara de toute la Syrie et la pilla '. This, according to Père Poidebard, proves the existence of a fortified zone based on Chalcis, and the remains found in the area are evidence that it was maintained from the 2nd century to the end of the Byzantine empire : they are in fact another *trace* of the genius of Rome. This I find difficult to believe. It seems on the face of it unlikely that a regular limes should have been organized in this area before the collapse of the eastern frontier in the 4th century, after the defeat of Jovian in 363, and the date of the principal remains in it does not support Père Poidebard's thesis. The fine walls of Chalcis itself, like those of Aleppo, are manifestly Byzantine (Lauffray, p. 8) : so are the splendid fortifications of Tell Drehem and all the chief buildings at Resapha, Qasr ibn Wardan, Stabl Antar and Androna. In the 6th century there was very great activity in this region and this explains why Quinnesrin—the ancient name of Chalcis which returned into currency after the Muslim conquest—was made the capital of a *gund*, or military division, in the time of the early Caliphate. The technical term limes may well have been applicable to the district in the 6th century when John Malalas wrote, but his use of the word does not necessarily imply that he believed that an organized limes existed there in the time of Sapor when the district was easily forced, much less earlier. The *traces* most evident here are those of Constantinople and Damascus.

The new light which has been shed on the Byzantine and Early Arab periods is very welcome. Père Mouterde has edited 71 new Greek inscriptions : 36 are dated according to the Seleucid era, 19 in the 6th century, 9 in the 5th and only 6 before A.D. 300, a distribution which illustrates the argument in the previous paragraph. One of the few early inscriptions, a lintel from Hierapolis, proves that Hadad was worshipped there as late as 233–4. Some of the later inscriptions throw side-lights on the spread of Christianity and the development of local resources under the Christian empire. Much of the land belonged to a few big territorial magnates, and a stone from Et-Touba, near Zebed, commemorates the construction by a Christian named Bellichos of a fortified granary in 353 of which much is still standing. In 425 a church to St. Thomas was founded at Hanaser by ' the ornament of her sex ', a woman named Mawia, who was probably an Arab princess, one of several Arabs who were converted at this time and married to imperial officers. In 553 a salt contractor named Theodoulos built a church to the ever-virgin Mother of God at a place called Rouhhweyb near Lake Gabbul, and glorifies God and the God-begotten Word in terms which echo the decisions of a Council at Constantinople held only three months previously. Several inscriptions refer to baths and one to a medicinal spring.

At Zebed the plan of a basilica published by Butler has been corrected in various respects : it now appears that this church, like many others in north Syria, had a railed tribune for the presbytery in the middle of the nave : the bishop's throne was in the centre of an apse at the west end of the tribune and faced the altar in the apse at the east end of the church. It is an arrangement which seems to have been peculiar to Syria : we shall know more about it, as M. Lauffray says, when the researches of M. Tchalenko have been published.

In the southeast of our area, nearly halfway on a road between Palmyra and Resapha, some extensive irrigation works have been studied by M. Mazloum (pp. 117–125). The name of the site is Qdeym, the ancient Acadama. The largest of the works is a *fogara* some 9 kilometres long, one of those subterranean galleries with inspection shafts at close intervals which are common from Turkistan to Morocco. At

Qdeym about 200 of these shafts have been found, all trace of the rest having been washed away by surface inundation : at the head of the canal the shaft is nearly 20 m. deep and the gradient averages about 5 m. in the kilometre. The gallery was mainly tunnelled through a bed of chalk and measured 1.60 by 0.80 m. but when it entered the alluvium near its exit into the open the sides were reveted with masonry and the dimensions reduced to 0.90 by 0.60 m. A fine tank or reservoir 62 m. square, with round towers at the corners, half round towers on two sides and a paved walk on the top of the walls, received the water from the canal and discharged it through sluices into another canal which led to a wider section of the valley about a kilometre lower down : the flow of water would be enough, according to M. Mazloum, to irrigate 250 hectares and there must be a network of regulators and secondary canals buried under the surface. The elaborate finish of the reservoir, which looks like a *bassin de plaisance*, and traces of a near-by residence some 90 m. square, visible only on the air photographs, suggest a comparison with the wonderful remains found by M. Daniel Schlumberger at Qasr el-Heir el Gharbi. Qdeym was plainly another oasis of the same type, created by engineers and adorned by craftsmen who shared the same traditions. Though no inscription has been found to confirm it, few will hesitate to assign this work also to one of the Umayyad princes.

At Sheikh Hilal, a site about 25 kilometres south west of Isriye, with more *fogaras* in the neighbourhood, the walls of a citadel have been recently uncovered by peasants and in these too M. Lauffray is disposed to recognize either another Umayyad castle or the older model of such a castle (p. 143).

It will be seen that M. Poidebard and his collaborators have laid us under a deep debt. A happy combination of ground work with air-photography has given us an articulated survey of the road system in a wide area as well as much new and varied material. We have only one complaint to make : there is no reference to ceramic remains on any site and yet a study of the potsherds littering the surface might well have solved some of the chronological problems, especially those connected with the older sites.

The luxurious style in which the two volumes, the text and the atlas of plates, have been produced in the Catholic Press at Beyrouth, the thickness of the paper and the lavish margins, stir various emotions in one inured to war-time austerities.

J. W. Crowfoot.

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Edited by

O. G. S. Crawford, F.S.A., and Roland Austin, F.S.A.

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Antiquity

A Quarterly Review of Archæology

Edited by

O. G. S. Crawford, F.S.A., and Roland Austin, F.S.A.

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